# LEPIDOPTERA HETEROCERA
IN
THE BRITISH MUSEUM.

PART V.

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# ILLUSTRATIONS

OF

# TYPICAL SPECIMENS

OF

# LEPIDOPTERA HETEROCERA

IN

# THE COLLECTION

OF

# THE BRITISH MUSEUM.

(Nat Hist) Dept. Zool

Part V.—By ARTHUR GARDINER BUTLER.

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ALERE FLAMMAM.

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# PREFACE.

The fifth part of this Work is devoted to illustrations of types of Indian Moths in the British Museum.

The majority of the species figured are from the region of the N.E. Himalayas; but a few forms occurring as far west as Almora have been introduced for comparison with the more eastern species which are allied to them; also some species of which the exact locality is unknown, but which are said to be from North India, have been admitted, since they were probably obtained either from Silhet or Assam.

A magnificent collection made by Dr. Lidderdale in Darjiling and Bhotan and acquired for the British Museum has yielded a great number of the new species described in this part.

Some other types were received from the collection of the former India Museum, and are the specimens described by Mr. Moore in the Catalogue prepared by him for the East-India Company between the years 1857 and 1859.

The descriptions of this part have been prepared by Mr. A. G. Butler, Assistant-Keeper in the Department of Zoology.

ALBERT GÜNTHER,
*Keeper of the Department of Zoology.*

*British Museum, October* 3, 1880.

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lidderdalii, *Butl.* . . . Bhotan . . . . . . . . . p. 73, Pl. C. ff. 1, 2.
stigmata, *Butl.* . . . Darjiling . . . . . . . . p. 73, Pl. C. ff. 3, 4.
nobilis, *Walk.* . . . Nepal, Silhet . . . . . . . p. 74, Pl. C. ff. 5, 6.

# ILLUSTRATIONS

OF

# TYPE SPECIMENS

OF

# LEPIDOPTERA HETEROCERA.

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## SPHINGIDÆ.

### ACOSMERYX, *Boisd.*

**Acosmeryx cinerea.** (Plate LXXVIII. fig. 1.)

Acosmeryx cinerea, *Butler, Proc. Zool. Soc.* 1875, p. 245.

Silvery grey, tinted with brown : primaries crossed by six or seven oblique pale brown lines, and from costa to external angle by a brown bar ; outer margin brown, bordered internally by a nebulous silvery streak : secondaries crossed beyond the middle by a pale brown bar ; apex and outer margin pale brown, bounded internally by a reddish suffusion : body brownish grey ; antennæ testaceous. Wings below very similar to *A. sericea*, but much paler, very slightly tinted with reddish : secondaries crossed by four indistinct brown lines in pairs ; apex grey : body below pale rufous-brown. Expanse of wings 3 inches 7 lines.

Silhet (*Argent*) ; Darjiling (*Sadler*).

**Acosmeryx sericeus.** (Plate LXXVIII. fig. 2.)

Philampelus sericeus, *Walker, Cat. Lep. Het.* viii. p. 181. n. 13 (1856).

Acosmeryx anceoides, *Boisduval, Hist. Nat. Ins. Lép. Hét.* i. p. 216. n. 2 (1875).

♀. Primaries above violet-grey, sericeous, varied with dark chocolate-brown, the latter colour forms an imperfect subbasal band ; a bifurcated belt before the stigma, which is indistinct, with minute yellowish centre ; an oblique straight streak just beyond the middle,

uniting with a badly-defined expanding oblique belt from costa to external angle; outer border undulated, dark brown, limited internally by a stripe of the ground-colour; a submarginal subangulated belt and two or three ill-defined parallel stripes of dark brown across the apical area: secondaries reddish brown, palest towards the base, and with a broad tapering dusky border: body above violet-grey, streaked with brown. Primaries below fuliginous brown, varied with ashy grey on the costa beyond the middle; a broad irregular reddish-fulvous discal belt tapering towards the apex; outer border dark brown: secondaries reddish fulvous, with the costal border whitish crossed by brown belts, which divide into indistinct rufous parallel lines below the costal vein and cross the wing to abdominal margin; outer border irregularly violet-brown, rather narrow: body below reddish fulvous; the sides of pectus, legs, and segmental lines of the venter greyish brown. Expanse of wings 4 inches 4 lines.

Silhet (*Stainsforth & Argent*).

**Acosmeryx pseudonaga.** (Plate LXXVIII. fig. 3.)

Most nearly allied to *A. naga*, but decidedly darker; the primaries more sericeous, with well-defined black-edged yellow discoidal stigma; the dark oblique belt beyond the cell convex instead of concave, abbreviated so as to be continuous with an oblique band (ill-defined in *A. naga*), which runs from the third median branch to the external angle; the dark external border widened in front, but abbreviated to little more than half the length of that of *A. naga*, the silvery-grey submarginal stripe more diffused, the apical excision of the margin deeper: secondaries with the basal half grey, the external half black; the fringe and a patch at anal angle whitish; the veins externally sordid white; no transverse dark stripes: body with less-defined markings. Under surface similar in marking to *A. naga*, but with scarcely a trace of the red coloration excepting upon the venter. Expanse of wings 4 inches 3 lines.

Bhotan (*Lidderdale*).

**PERGESA**, *Walk.*

**Pergesa aurifera.** (Plate LXXVIII. fig. 4.)

Pergesa aurifera, *Butler*, *Proc. Zool. Soc.* 1875, p. 7. n. 11.

Primaries above olive-green, base transversely spotted with black; a violet-centred black discoidal stigma and a dusky streak from it to the inner margin; disk clouded with reddish, crossed obliquely from costa to inner margin by three parallel series of black spots; three large subapical costal black spots; outer margin pearly, speckled with black; fringe dull ochraceous: secondaries black-brown, costal area pale brown; an anal ochreous streak: body olive-green; head bordered with whitish; tegulæ grey, with black borders; abdomen with two longitudinal series of black dots, a lateral golden-yellow streak from the second segment,

and a broad undulated golden-yellow lateral border, each undulation with a central black dot. Wings below nearly as in *P. castor*, but the black markings more pronounced in character. Expanse of wings 3 inches 5 lines.

Sikkim (*Whitely*); Darjiling (*Lidderdale*).

**Pergesa velata.** (Plate LXXVIII. fig. 5.)

Pergesa velata, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1853 (1866).

Primaries olivaceous brown, paler towards the outer border, which is irregular and greyish brown; markings nearly as in the preceding species, blackish: secondaries smoky brown, with the costal border and a dash at anal angle pale testaceous: body smoky brown, the abdomen slightly paler than the thorax, with two subdorsal series of dusky dots; margins of head and sides of prothorax whitish. Primaries below smoky brown, crossed by a broad belt of pale ochraceous, suffused with rose-red and transversely speckled with short black strigæ, its margins very irregular and its centre strongly constricted: secondaries ochraceous, washed with rose-red and speckled with black; two parallel discal series of blackish dots; outer border narrowly smoky brown: pectus whitish, venter rosy brownish. Expanse of wings 2 inches 8 lines.

Darjiling (*Russell & Lidderdale*).

**Pergesa gloriosa.** (Plate LXXVIII. fig. 6.)

Pergesa gloriosa, *Butler*, *Proc. Zool. Soc.* 1875, p. 246; *Trans. Zool. Soc.* 1876, vol. ix. p. 549, pl. xcii. fig. 3.

Primaries above bright olive-green, with broad darker external border; three oblique deep blood-red belts, confluent upon the inner border, the first near the base with an inward angle at its upper extremity, the second and third forking close to costa, the third bounding the external border and enclosing three diamond-shaped, bright olive-green spots upon the median branches; costal margin bright carmine; a pearly rose-coloured line along the outer margin, followed by a deep blood-red fringe; inner margin fringed with snow-white: secondaries blackish, with a broad undulated dull rose-coloured discal belt traversed by a blackish undulated line; outer border blackish, washed with rose-red; fringe brown, with the shallow subanal sinus snow-white, the anal margin sordid white; the abdominal fringe white: head olive-green, slightly reddish in front; palpi and antennæ above bright plum-coloured; thorax plum-coloured, with a central olivaceous patch; lateral margins pink in front of the wings, snow-white behind the shoulders: abdomen bright olive-green, plum-coloured at the sides. Wings below brilliant carmine, traversed by three parallel discal undulated blood-red stripes; external border of primaries pearly pinkish; basicostal and abdominal margins yellowish; basal third of primaries occupied by a large black patch; fringes nearly as above; body

below bright rose-red; legs yellowish, the femora fringed with bright rose-coloured hair. Expanse of wings 3 inches 5 lines.

Darjiling (*Lidderdale*).

The original type of *P. gloriosa* is unfortunately so rubbed and faded that without comparison it could not have been identified; since, therefore, the description and figure already published do not correctly characterize the species, it has been necessary to make a second type of the fresh example collected by Dr. Lidderdale.

## PANACRA, *Walk.*

### Panacra vagans. (Plate LXXVIII. fig. 7.)

Primaries above olive-brown, basal area cinereous, costal margin sandy yellow; externo-discal area, especially towards the external angle, whity brown mottled with black; a subapical costal spot of the same colour; a very oblique irregular belt, occupying more than a third of the costal area at its commencement, but abruptly narrowing to a stripe below the cell, reddish olivaceous, crossed by streaks of pinky white and distinctly black-bordered, bounded internally by a sinuous deep red-brown band; an indistinct zigzag black line across the basal area; three black oblique lines across the disk, the two inner ones approximated, the outer one sinuated towards the inner margin; a sharply-defined zigzag black stripe at apex: secondaries smoky brown with pink reflections; costal border whitish; two parallel ill-defined black-mottled submarginal whitish streaks not reaching the apex; outer border dusky; a bright saffron-yellow anal spot: thorax olivaceous, longitudinally striped with pinky whitish; tegulæ fringed with pale golden or brassy scales: abdomen red-brown, densely sprinkled with large grey or pearly scales; a broad brown-edged (almost golden) belt on each side. Wings below dull red, with the disk grey, traversed by three or four approximated black lines; costa yellowish, speckled with black; external area pale brown, varied with grey and mottled with black: primaries with the basal area sandy brown; apical zigzag black streak less prominent than above: body below yellowish, almost white in the centre of the ventral region, with two terminally convergent longitudinal brown ventral lines; sides sprinkled with metallic golden scales. Expanse of wings 2 inches 11 lines.

Borneo and Bhotan (*Lidderdale*).

Our type from Borneo differs in no respect from the Indian example except in its much finer condition. As there cannot be a question respecting the localities, it is evident that this species must have a very extensive range; however, this is not at all unusual with the Sphingidæ.

### Panacra perfecta. (Plate LXXVIII. fig. 8.)

Panacra perfecta, *Butler*, *Proc. Zool. Soc.* 1875, p. 391.

Primaries above olivaceous, varied on discoidal area with lilacine streaks, with longitu-

dinal blackish and grey lines on the veins; a black discocellular dot, surrounded by a lilacine zone; a piceous streak, followed by three oblique parallel blackish lines from internal margin to upper radial nervure; apical and external areas (including the central portion of the intervals between the oblique lines) buff, varied with olivaceous; an irregular submarginal brown line from apex to external angle, bordered by a diffused brownish streak at its extremities and between the radials (at which point the external area is dark olivaceous); an exterior submarginal line parallel to the last, but not reaching the apex; outer margin olivaceous: secondaries rosy brown, clothed with greyish olivaceous hairs at the base; external area dark brown; a double submarginal ochreous streak from just beyond the third median branch to the anal angle; fringe yellow, with black spots at the ends of the veins: head, palpi, collar, tegulæ, and thorax above olive-brown; a lateral lilacine line on the vertex of the palpi, and on each side of the head, collar, and tegulæ; a central spot on the crest, and another of the same colour in the middle of the collar; a whitish line along the inner margins of the tegulæ: abdomen greyish brown in the middle, slightly lilacine at the base and with two subdorsal series of blackish spots; sides of abdomen reddish brown, with a broad paler streak, which is ferruginous on the basal segments, but golden mottled with ferruginous on the posterior segments. Primaries below with the basal half dark greyish brown, costa ochraceous; external half ochreous, a broad red streak tapering from the end of the cell to the apex; the oblique lines of the upperside red, the submarginal lines blackish, with white interstitial line at apex: secondaries grey, costa yellow; subcostal, abdominal, and disco-anal areas carmine-red, the latter mottled with yellow; three central brown lines diverging upon costa, and traversed by a waved transverse series of seven black dots upon the veins; a golden discoidal spot; two submarginal brown lines, the inner one extending along the margin of the discal carmine area; margin ferruginous, fringe as above: palpi below white, reddish at the sides, pectus golden, varied in front with ferruginous and at the sides with silver scales; coxæ and trochanters sordid white, fringed with ferruginous; anterior femora and tibiæ brown, tarsi white; second pair of legs pale brown, femora fringed above with orange and below with gold; third pair rosy whitish, femora below and tibiæ above fringed with golden scales. Expanse of wings 2 inches 6 lines.

Darjiling (*Sadler & Lidderdale*).

This species occurs in the month of June.

**Panacra mydon.** (Plate LXXVIII. fig. 9.)

Panacra mydon, *Walker, Cat. Lep. Het.* viii. p. 155. n. 2 (1856).
Panacra scapularis (part.), *Walker, l. c.* p. 157. no. 5 (1856).

General coloration of the preceding species. Wings shorter and broader; costal border of primaries pale olivaceous brown, crossed near the base and apex by black bars; discal lines dentate-sinuate; submarginal lines obsolete: secondaries with paler blackish-mottled ochreous

streak: abdomen with the basal segments chalky white in the middle, this colour being limited on each side by a subcuneiform black patch. Wings below quite different from *P. perfecta*, purplish brown: primaries with the basal area smoky brown; costal border mottled with ochreous; a subapical patch and a discal abbreviated band or patch across the median branches ochreous, mottled with blackish: secondaries with the basal half dull rosy reddish, traversed by a brown line parallel to the margin of the external half, which is crossed by an interrupted ochreous spotted rosy-reddish belt, giving the impression of a reddish wing with two parallel central brown lines and with a brown outer border; the rosy areas mottled with dark brown: body below much as in *P. perfecta*, but the venter decidedly browner in the middle. Expanse of wings 2 inches 5 lines.

Silhet (*Argent &c.*); Barrackpore (*Hearsay*).

## ANGONYX, *Boisd.*

### Angonyx automedon. (Plate LXXIX. fig. 1.)

♀. Panacra automedon, *Walker, Cat. Lep. Het.* viii. p. 154. n. 1 (1856).
♂. Panacra truncata, *Walker, l. c.* p. 160. n. 8 (1856).

♀. Primaries above pale rosy testaceous, clouded with olive-brown and mottled with black; a broad oblique olivaceous belt tapering from inner margin to apex and traversed externally by parallel closely-approximated grey lines, its outer edge deeply bisinuated and white towards apex: secondaries sordid testaceous, with a dark brown outer border limited internally by an undulated stramineous stripe: body greyish brown, becoming whiter on the head, with two longitudinal lateral ferruginous stripes, less distinct on the abdomen than on the thorax, and limited externally by a belt of scattered metallic golden scales; sides of abdomen grey tinted with pink. Wings below ochreous, mottled with dark grey; a discal series of small blackish conical spots; outer border greyish brown: primaries with the basal area and an oblique belt to apex greyish brown: body below sordid white, venter reddish at the sides. Expanse of wings 2 inches 4 lines.

♂. Differs in its slightly smaller size and more deeply excavated outer margin below apex of primaries.

Silhet (*Stainsforth*).

### Angonyx busiris. (Plate LXXIX. fig. 2.)

Panacra busiris, *Walker, Cat. Lep. Het.* viii. p. 158. n. 6 (1856).

Primaries above with the basal fourth laky brown, traversed and bounded by sinuous black lines; central area occupied by a very irregular olive-green belt, very wide on the costa, but abruptly narrower below the cell, limited externally by a very irregular black-edged brown stripe; a black discocellular dot; external area testaceous, becoming pale ochreous at

apical border, washed internally with pink, irrorated here and there with black, and traversed by irregular black, brown, and whitish lines; a zigzag submarginal white line opposite to the apical sinus; a tuft of white hair at base of inner margin: secondaries purplish brown, very dark; costal area white; outer border narrowly testaceous and black-speckled; an irregular pinky-white anal line: thorax green, with pale pinky-brown margins; metathorax with lateral black and white tufts: abdomen ferruginous, longitudinally streaked with paler lines; sides greenish towards the base. Primaries below blackish, the costal area washed with greenish, the external third bright reddish fulvous, becoming yellow at the border; the zigzag white apical line of upper surface bounded externally by the yellow border and internally by an irregular band of ferruginous; costal margin yellow; black specklings as above: secondaries with green basal half; disk purplish brown, washed with pale lilac, with the veins and an irregular discal stripe pinky whitish; veins black internally close to the stripe; external border black-speckled, yellow at the margin: body pale testaceous, varied with purplish brown, the venter with three central longitudinal lines. Expanse of wings 3 inches 2 lines.

Silhet (*Stainsforth*).

## CHÆROCAMPA, *Dupon.*

### Chærocampa macromera. (Plate LXXIX. fig. 3.)

Chærocampa macromera, *Butler*, *Proc. Zool. Soc.* 1875, p. 7.
Chærocampa elpenor, var., *Walker*, *Cat. Lep. Het.* viii. p. 128 (1856).
Chærocampa rivularis, *Boisduval*, *Hist. Nat. Ins. Lép. Hét.* i. p. 280 (1875).

Nearly allied to *C. elpenor*, but much larger; the primaries duller in colour, with the outer margin more broadly rosy lilacine; secondaries with more than half the wing rose-coloured; body with the dorsal rose-coloured line less distinct: wings below with the ochraceous costal border duller, much narrower, only clearly marked towards the base; transverse belt replaced by two narrow parallel lines. Expanse of wings 3 inches 4 lines.

Silhet (*Macgillivray*); Shillong Mountain (*Lidderdale*).

### Chærocampa fraterna. (Plate LXXIX. fig. 4.)

Chærocampa fraterna, *Butler*, *Proc. Zool. Soc.* 1875, p. 247.

General aspect of the preceding species, but altogether duller in colour: primaries above golden olivaceous, with the two oblique bands and border dull greyish pink: secondaries with basal half dull black, external half dull pink, fringe whitish; body altogether duller. Wings below bright rose-red, costæ of all the wings ochreous, a central grey-brown transverse line; basal half of primaries brown, clothed to first median branch with ochreous and pink hairs: body below rose-red, abdomen with lateral white dots. Expanse of wings 3 inches 2 lines.

Almora, North India.

This species evidently ranges into North-western India, as Mr. Moore has an example from Simla; *C. macromera*, on the other hand, seems only to occur in the North-east.

**Chærocampa lucasii.** (Plate LXXIX. fig. 5.)

Chærocampa lucasii, *Walker*, *Cat. Lep. Het.* viii. p. 141. n. 24 (1856).

Primaries above pale sordid buff, crossed from just before the middle by seven greyish lines, which converge to apex, the third and seventh indistinct: secondaries dark brown, with pale greyish-brown abdominal border; the costal border, a patch at anal angle, and the fringe pale buff: body above sordid buff, the thorax reddish with whitish margins; abdomen with three dorsal longitudinal grey lines and indications of lateral reddish stripes. Under surface pale pinky buff: primaries with a large dusky patch covering the greater part of the cell, the basal third of median interspaces, and part of interno-median area; an abbreviated series of black dots across the disk from costa to second median branch; outer border irregularly pale grey: secondaries with a discal arched series of black points: body below rather more pink in tint than the wings. Expanse of wings 3 inches 1 line.

Silhet, Ceylon, Hong-Kong, and Borneo.

**Chærocampa silhetensis.** (Plate LXXIX. fig. 6.)

Chærocampa silhetensis, *Walker*, *Cat. Lep. Het.* viii. p. 143. n. 27 (1856).

Primaries above pale sordid buff, traversed obliquely from base of inner margin to apex by a broad and slightly tapering dark olive-brown band, edged externally with white; two slightly curved approximated brown lines nearly parallel to and beyond it; the commencement of a third line running from inner margin and uniting with the second and two parallel submarginal lines, the outer one formed of black scales and indistinct; a black discoidal stigma: secondaries sordid buff; a broad purplish-brown belt, darkest externally, running from submedian vein to near apex; outer border grey, fringe pale buff: thorax reddish brown, head and sides of prothorax greyish white, outer margins of tegulæ white, a central longitudinal stripe on each; abdomen pale reddish brown, greyish with golden yellow streaks at the sides, numerous longitudinal olivaceous lines; a dorsal longitudinal olivaceous stripe enclosing a silvery white line. Wings below ochreous, sprinkled with black scales; two parallel discal dusky lines, followed by a series of black dots; outer border grey: primaries brownish towards the base, very pale at base: body below whitish; sides of venter pinky brownish, with a series of black spots. Expanse of wings 2 inches 11 lines.

Silhet (*Stainsforth*); Ceylon (*Templeton*); Borneo (*Low*).

The *C. bisecta* of Moore, from Java, is a local form, differing in its paler and more sandy coloration.

**Chærocampa lineosa.** (Plate LXXIX. fig. 7.)

Chærocampa lineosa, *Walker*, *Cat. Lep. Het.* viii. p. 144. n. 28 (1856).

Primaries above pinky brown, with olive-brown markings in the type *, bright sap-green with olivaceous markings in fresh examples; seven olivaceous stripes running from the inner margin to the apex, the third and fourth being widest and indicating an oblique belt; a black discoidal stigma; secondaries black, with an irregularly-notched discal belt and the fringe cream-coloured; costal border whitish: body sap-green; sides of head and prothorax pinky white; abdomen with four parallel longitudinal dorsal grey stripes, sides greyish. Wings below yellow, washed with red and speckled with black, with faint indications of two or three greyish discal lines; basal area of primaries streaked with black: pectus yellow, reddish at the sides; legs white, washed with green; venter white, yellow at the sides. Expanse of wings 3 inches 10 lines.

Silhet (*Stainsforth*); Darjiling (*Lidderdale*).

## DEILEPHILA, *Ochs.*

**Deilephila lathyrus.** (Plate LXXX. fig. 1.)

Deilephila lathyrus, *Walker*, *Cat. Lep. Het.* viii. p. 172. n. 16 (1856); *Boisduval*, *Hist. Nat. Ins. Lép. Hét.* i. pl. 6. fig. 2 (1875).

Primaries whity brown, irrorated with grey; base snow-white; a broad subbasal belt, a patch just beyond the cell, two transverse subapical costal lunular streaks, and a discal belt tapering from inner margin to apex, and limiting the external area, brownish olivaceous; a black internal spot occupying the inferior fourth of the subbasal belt; costa olivaceous; external area dusky internally; fringe blackish: secondaries black, becoming brown towards costa, which is white, outer border sordid white; an irregular pale rosy discal belt becoming abruptly white on abdominal area: body above olivaceous; sides of head and thorax white; abdomen at the sides pale yellow, with two basal black patches. Under surface sandy yellowish, the wings irrorated with fine grey striations and tinted slightly with pink; two dusky discal lines, which unite beyond the median vein of secondaries: primaries with a dusky spot at the end of the cell; pectus white. Expanse of wings 3 inches 3 lines.

Almora, North India.

## AMBULYX, *Walk.*

**Ambulyx junonia.** (Plate LXXX. fig. 2.)

Allied to *A. rubricosa*, general coloration and pattern of primaries similar, but the basal

* As this coloration is simply due to fading, it is clearly incorrect to note it as a character of the species.

third more broadly suffused with grey; the apex of the same pale-green tint as the rest of the ground-colour; the external border wider in the middle, blackish, limited internally by a sinuated, instead of undulated, black line and not spotted or clouded with silver-grey; post-median band barely indicated, the outer line sinuous and indistinct, the inner line only represented by the discocellulars; stigma small and blackish; oblique stripe from costa to near external angle less defined than in *A. rubricosa*: secondaries bright rose-red; costal border yellow; outer margin lilacine grey; anal half of abdominal border lilacine grey; a large rounded black patch, with pupil and crescent of lilac scales upon it, across the median branches; outer border of black patch bounded by a stripe of bright sap-green: thorax olive-green, clouded with brownish; antennæ, apical half of tegulæ, and fringe lilacine grey; abdomen sap-green, with a central longitudinal grey belt enclosing a black dorsal line and a series of cuneïform grey patches on each side. Under surface bright chrome-yellow; wings crossed by two red-brown lines: primaries with a large diffused interno-basal rose-red patch; a large triangular grey discal patch which loses itself outwardly in the external border, which is blackish; two subapical parallel squamose lines; a streak of marginal grey scales; costal border sordid white: secondaries sordid white at base; external border slightly greyish: sides of pectus and base of venter greenish; legs grey. Expanse of wings 4 inches 2 lines.

Bhotan (*Lidderdale*).

### **Ambulyx maculifera.** (Plate LXXX. fig. 3.)

Ambulyx maculifera, *Walker, Cat. Lep. Het. Suppl.* v. p. 1851 (1866).

Primaries above laky brown, washed with grey; a small brown spot near the base of costal border, two large rounded olive-brown subbasal spots, one costal the other internal, and a similarly coloured spot on the costa opposite to the origin of the second median branch, commencing an outline belt formed by two parallel zigzag brown lines which run to inner margin; a second belt formed by four blackish undulated discal lines which diverge widely towards the costa, the two outer ones indistinct excepting at their extremities; a stripe from extremity of first median branch to apex, its inner half yellow, its outer half black; marginal line slenderly black; veins red-brown: secondaries dull red, mottled with yellow, pale and brownish at base and on abdominal area; anal area sandy whitish; a blackish transverse stripe across the middle from subcostal vein to near anal angle, the commencement of a second stripe or line parallel to outer margin near anal angle, its continuation indicated by undulated congregations of blackish dots; outer border dark laky brown: body lilacine grey; head and palpi whitish; crest, shoulders, and posterior borders of metathorax occupied by large cupreous-brown patches; segments of abdomen fringed with cupreous brown. Wings below yellow, washed with burnt-sienna and mottled with laky brown and black: primaries with a spot at end of cell, an undulated stripe beyond the middle, and three oblique subcostal dashes towards apex lilac-brown; outer border grey, limited internally by a purplish-black stripe: secondaries with markings nearly as above. Body below flesh-coloured; the coxæ, anus, and

some lateral spots on the venter bright orange; palpi reddish. Expanse of wings 4 inches 11 lines.

Darjiling (*Russell & Lidderdale*).

**Ambulyx consanguis.** (Plate LXXX. fig. 4.)

Primaries above laky brown, washed with ochre-yellow and crossed by slightly darker bands, edged with blackish lines almost exactly as in *A. substrigilis,* but with large blackish olivaceous rounded spots on the basal area arranged like the spots of *A. maculifera,* and with a purplish nebula on the internal area near external angle, enclosing a large rounded blackish olivaceous spot upon the discal band: secondaries similar to *A. maculifera*: body as in the allied species, but the dark patches on the tegulæ and metathorax considerably blacker. Under surface similar to *A. maculifera,* but darker and showing the discal rounded spot of primaries as a grey spot beyond the discal grey stripe. Expanse of wings 4 inches 4 lines.

Darjiling (*Lidderdale*).

## LEUCOPHLEBIA, *Westw.*

**Leucophlebia bicolor.** (Plate LXXX. fig. 6.)

Leucophlebia bicolor, *Butler, Proc. Zool. Soc.* 1875, p. 16. n. 33, pl. ii. fig. 5.

Primaries rose-coloured; a broad central longitudinal tapering straw-yellow streak from base to apex, its front margin nearly straight, its hind margin arched, with three processes upon the median branches; fringe stramineous: secondaries bright ochreous; costa and abdominal margin stramineous; outer margin rosy, fringe stramineous: thorax dull rose-coloured, darker in front than behind, with a central ochreous spot; abdomen whitish ochraceous, rosy at the margins; antennæ above creamy whitish, below brownish. Wings below stramineous: primaries with ochreous discoidal area; apical portion of costa abruptly and broadly rosy; outer margin with a broad pale rose-coloured border, tapering to apex: secondaries with costa and outer margin pale rosy: body below dull pale ochraceous, tinted with rose-colour, which becomes more distinct towards the head; palpi dull rosy; legs cream-coloured above, rosy below. Expanse of wings 2 inches 2–3 lines.

Almora, N. India (*Boys*).

**Leucophlebia damascena.** (Plate LXXX. fig. 7.)

Leucophlebia damascena, *Butler, Proc. Zool. Soc.* 1875, p. 392.

Primaries deep damson-red; a broad streak of silky ochreous, tapering towards the base and apex and emitting spine-like streaks upon the median branches and radials; fringe near the external angle pale stramineous: secondaries deep ochreous; outer margin rosy, fringe

and costal area stramineous: head and thorax deep damson or plum-coloured; a dorsal ochreous thoracic streak; antennæ whity brown: abdomen greyish rose-colour, with central longitudinal buff streak; segments with deep ochreous hinder margins and whitish fringe. Wings and body below almost as in *L. bicolor*. Expanse of wings 2 inches 5 lines.

Sikkim (*Whitely*).

## CYPA, *Walk.*

### Cypa incongruens. (Plate LXXX. figs. 8 & 9.)

♂. Primaries above brownish grey, tinted with lilac; subapical area whity brown; veins pale; two curved stripes of dark brown across basal area; a discal belt of the same colour, limited in front by the subapical area and behind by the external border, interrupted upon inner margin by a spot of the ground-colour; an abbreviated costal streak on the subapical area and a trisinuate line bounding the outer border towards the apex dark brown; outer margin narrowly rosy brown; fringe black, varied with cream-colour at the extremities of the veins: secondaries ferruginous, with cream-coloured fringe: thorax greyish brown, becoming ferruginous behind; abdomen ferruginous, paler at the sides and behind. Under surface pale flesh-colour; wings with two slender grey discal lines, the outer one dentate-sinuate: primaries washed with ochraceous excepting at apex and on external border, and broadly clouded with ferruginous: palpi below white. Expanse of wings 2 inches 5 lines.

♀. Altogether redder, the markings of primaries less distinct; the primaries and body of an almost uniform colour throughout, more distinctly lilacine or violaceous in tint than in the male; markings below indistinct. Expanse of wings 2 inches 7 lines.

♂, Darjiling (*Lidderdale*); ♀, Darjiling (*Sadler*).

## TRIPTOGON, *Brem.*

### Triptogon gigas. (Plate LXXX. fig. 5.)

Triptogon gigas, *Butler*, *Proc. Zool. Soc.* 1875, p. 253. n. 38.

Allied to *T. sperchius*, rather larger; primaries above paler, excepting at the centre of outer margin; a blackish discoidal stigma; four transverse well-defined basal lines: secondaries red-brown; anal angle paler, with two obliquely-placed small dark-brown spots. Primaries below with the central lines less distinct: secondaries whity brown, excepting at anal angle, where they are tawny; three nearly equidistant ferruginous lines. Expanse of wings 5 inches 5 lines.

Silhet (*Stainsforth*).

**Triptogon florale.** (Plate LXXXI. fig. 1.)

♂. Ambulyx floralis, *Butler, Trans. Zool. Soc.* ix. p. 639 (1876).

♀. Primaries above bright bluish green, with two oblique subbasal stripes and two slightly divergent subangulated discal stripes sap-green; outer border broadly washed with a tint of silvery greyish, its inner edge defined by an undulated sap-green line; inner margin tinted with pinky brown, with a large deep rose-coloured tuft at base; fringe yellow, tipped with black: secondaries bright rose-red, with pale costal area and broad diffused green external area, darkest at anal angle; fringe yellow, dotted with black at the extremities of the veins; extreme base white: thorax bright velvety grass-green; abdomen sap-green; antennæ pink. Under surface green, wings crossed by two parallel silvery white discal stripes, bounded outwardly by diffused sap-green stripes, the inner one of primaries abbreviated owing to its passing into a broad carmine patch, which covers the basal three fifths of the wing excepting upon the borders; anal areas of both wings tinted with lilac-grey, the commencement of the submarginal undulated line of primaries indicated in this colour: secondaries with a third oblique white stripe near the base. Expanse of wings 4 inches 8 lines.

Darjiling (*Lidderdale*).

The only female known previous to the arrival of the present one was so much faded as to render its definition impossible; it had become yellow in tint on both surfaces. It is probable that fresh examples of the male would show a similar uniformity of colouring in the primaries to that exhibited by the female.

**Triptogon indicum.** (Plate LXXXI. fig. 2.)

Smerinthus indicus, *Walker, Cat. Lep. Het.* viii. p. 254. n. 17 (1856).

Primaries above brownish grey, with an olive-brown apical external patch; four lines across the basal area (the second very indistinct), two across the middle, the outer one subangulated, widely diverging from the inner one towards the costa, and followed by traces of a third parallel to it, and a very sinuous discal line, all pale olive-brown; a blackish dot near external angle; fringe grey, spotted with black: secondaries pale ferruginous, whitish on costal border; a white anal patch crossed by a dark ferruginous streak; fringe grey, with two or three blackish spots: body brownish grey. Under surface altogether paler; palpi ferruginous, anterior coxæ reddish. Expanse of wings 2 inches 4 lines.

North India.

## CLANIS *, *Hübner*.

### Clanis pudorina. (Plate LXXXI. fig. 3.)

Smerinthus pudorinus, *Walker*, *Cat. Lep. Het.* viii. p. 253. n. 16 (1856).
Basiana pudorina, *Butler*, *Trans. Zool. Soc.* vol. ix. p. 596 (1876).

Primaries above brownish grey, crossed near the base by an olive-brown line; an ill-defined dark-edged irregular broad central belt, a subapical costal oblique dash, and a series of three or four dots upon the veins, also olive-brown: secondaries rose-pink, darkest on abdominal area; outer border slightly brownish; an oblique abbreviated black line at anal angle; thorax olivaceous, pinky brown at the sides; abdomen pinky brownish. Wings below rosy, the primaries darker than the secondaries; a faint subangulated submarginal red-brown line; marginal edge ferruginous: primaries with slightly yellowish costal border: body below corresponding in colour with the wings, the pectus being darker than the venter. Expanse of wings 2 inches.

Almora, N. India.

### Clanis bilineata. (Plate LXXXI. fig. 4.)

Basiana bilineata, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1857 (1866).

Primaries yellowish olivaceous, with external area broadly washed with grey; a bright diffused olivaceous belt cutting obliquely across the end of the cell and limited by the third median branch; a second transverse olivaceous belt, bordering externally the fourth transverse line, towards the costa; an apical costal cuneiform olivaceous patch limited externally by the submarginal line; wing crossed by seven more or less undulated grey lines, the fourth to sixth discal, parallel, and regularly undulated; submarginal line irregular and indistinct; veins reddish: secondaries dull blood-red, with a large black interno-basal patch; abdominal border pale silvery brownish; anal area greyish olivaceous; costa and fringe ochraceous: body sandy brown, thorax with a red-brown longitudinal central stripe, antennæ flesh-coloured. Under surface sandy ochraceous: primaries slightly reddish in the cell; a broad black interno-median streak; indications of three slightly undulated dusky discal lines; sub-apical costal area whitish, limited externally by a slender oblique dark-brown line from apex to second median branch; fringe dark brown: secondaries whitish at the base; fringe brown, with yellow external edge. Expanse of wings 5 inches.

Darjiling (*Russell & Lidderdale*).

* The type of this genus is *C. nicobarensis* of Schwarz, a species identical with *Basiana phalaris*; therefore Walker's genus *Basiana* will have to be cancelled. The *Sphinx achemenides* of Cramer (placed in *Clanis* by Hübner) is an *Oryba*.

**Clanis deucalion.** (Plate LXXXI. fig. 5.)

Basiana deucalion, *Walker*, *Cat. Lep. Het.* viii. p. 230. n. 1 (1856).

Primaries above with general coloration of the preceding species, but washed with greyish more or less all over; the ground-tint also somewhat redder, almost flesh-coloured; markings also very similar, but the lines across the basal area twisted together: secondaries reddish testaceous, traversed by four ill-defined dusky undulated discal lines; outer border washed with grey towards anal angle; a broad triangular hairy interno-median basal black patch; costa and fringe buff: thorax flesh-coloured, with the dorsal area pale ferruginous; abdomen whity brown, with the dorsal region pale ferruginous; antennæ flesh-coloured. Under surface similar to the preceding species, but paler. Expanse of wings 4 inches 7 lines.

North India (*Mauger*).

But for the fact that the sexes of *C. bilineata* are well known to be alike in pattern and coloration, it would be difficult to regard *C. deucalion* as a distinct species.

**Clanis cervina.** (Plate LXXXI. fig. 6.)

Basiana cervina, *Walker*, *Cat. Lep. Het.* viii. p. 237. n. 2 (1856).

Pale sandy buff; primaries faintly shot with pink and crossed by six sandy-yellow lines, of which three are discal, parallel, and regularly undulated: secondaries with the subcostal area broadly suffused with rose-red; costa whitish. Under surface whity brown; wings with faint indications of the discal lines; femora of front legs and base of palpi rosy. Expanse of wings 4 inches 2 lines.

North India and Madras.

## PSEUDOSPHINX, *Burm.*

**Pseudosphinx nyctiphanes.** (Plate LXXXI. fig. 7.)

Macrosila nyctiphanes, *Walker*, *Cat. Lep. Het.* viii. p. 209. n. 16 (1856).

Primaries testaceous, washed here and there with grey, particularly at base and apex, crossed by numerous dentate-sinuate and nearly parallel ferruginous lines; submarginal line dentate-sinuate, black, the second sinuation edged internally with white; interspace between the second and third discal lines (counting from apex) whitish towards the costa; a whitish or pale-yellow discoidal stigma with ferruginous edge; several dusky subbasal spots; fringe alternately black and whitish; three oblique black streaks below the median veins: secondaries purplish black; costal area and a central streak composed of three or four laterally-confluent hastate spots whity brown; outer border pale brown; fringe whitish, varied with black towards apex; a whitish-edged subanal conical black spot: body greyish olivaceous varied with reddish; thorax with interrupted black border; basal segments of abdomen

blackish, fringed with white at the sides. Primaries below with the basal two thirds sandy brown, limited externally by two dentate-sinuate dusky lines, the outer onc bordered externally by a pale yellow stripe; external third chocolate-brown; fringe alternately blackish and cream-coloured; a blackish costal spot just beyond the cell and a yellowish one at the commencement of the first discal line: secondaries similar in character to the primaries, but the basal area sandy yellow and the discal lines and yellow stripe broader: body below fleshy brown. Expanse of wings 4 inches 7 lines.

Silhet (*Stainsforth &c.*).

**Pseudosphinx inexacta.** (Plate LXXXI. fig. 8.)

Macrosila inexacta, *Walker*, *Cat. Lep. Het.* viii. p. 208. n. 14 (1856).

♂. Primaries above smoky grey, with sordid flesh-tinted internal area, the whole surface sprinklcd with dull yellow and whitish scales; base spotted with white; two ill-defined irregular parallel black lines across the basal area; a large black-edged snow-white discoidal stigma, followed by two parallel lunulated black discal lines; external area limited internally by a pale black-edged dentate-sinuate stripe, followed by a white submarginal undulated stripe, but diverging from it towards the middle of the wing, and thus enclosing an irregular tapering blackish area; fringe white, spotted with black: secondaries purplish brown, with pale-brown costal area; an internally pale-bordered black subanal spot; base of abdominal area clothed with whitish hair; fringe varied with white at anal angle: body brown, irrorated with fulvous and white scales; shoulders, back of collar, and margins of thorax spotted with white; abdomen with three longitudinal series of black spots, the lateral series attached to white spots. Wings and pectus below chocolate-brown; primaries with a dusky-bordered pale discal stripe parallel to thc outcr margin; fringe as above: secondaries with a pale discal belt intersected by a dusky stripc; fringc white, spottcd with black: vcnter white, with the sides, anus, and a central series of large quadrate spots chocolate-brown. Expanse of wings 3 inches 2 lines.

North India (*Hawes*).

**Pseudosphinx fo.** (Plate LXXXI. fig. 9.)

Zonilia fo, *Walker*, *Cat. Lep. Het.* viii. p. 195. n. 6 (1856).
Dolba fo, *Butler*, *Trans. Zool. Soc.* vol. ix. p. 612. n. 1 (1876).

Primarics above slaty grey, crossed at nearly cqual intervals by thrce black-cdged almost lunulated sinuous ycllowish-brown bands; a conspicuous crcam-coloured black-edgcd discoidal stigma; outer border black; fringe yellow, spottcd with black: sccondarics purplish brown, with dusky outer border; fringc yellow; base yellowish: body grcyish brown, abdomen with altcrnately ycllow and blackish lateral spots; antcnnæ flesh-coloured. Wings below pale

chocolate-brown without markings; fringe as above: body pale ochreous brown at the sides. Expanse of wings 2 inches 9 lines.

North India (*Mauger*).

Allied to the preceding species, but with shorter front wings, giving it much the aspect of the genus *Dolba*.

## AGARISTIDÆ.

### EUSEMIA, *Dalm.*

**Eusemia silhetensis.** (Plate LXXXII. fig. 1.)

Eusemia silhetensis, *Butler, Ann. & Mag. Nat. Hist.* ser. 4, vol. xv. p. 139. n. 1 (1875).

Closely allied to *E. victrix* of Nepal, but with the central pale yellow band of primaries more transverse, the two patches of which it is formed being placed exactly below one another; occasionally one discal subcostal white spot instead of three in a transverse series; the blue marginal area of secondaries considerably broader; differences below much as above. Expanse of wings 3 inches 4 lines.

Silhet.

**Eusemia orientalis.** (Plate LXXXII. fig. 2.)

Eusemia orientalis, *Butler, Ann. & Mag. Nat. Hist.* ser. 4, vol. xv. p. 139. n. 2 (1875).

Also allied to *E. victrix*, but smaller; the central pale yellow band of primaries more irregular; the discal white spots replaced by an externally angulated quadrifid white fascia: secondaries with the marginal blue area much narrower and of a more purple tint. Wings below purplish brown, the margins bluish; primaries with markings as above; secondaries with a diffused subapical orange spot. Expanse of wings 2 inches 6 lines.

Mussooree (*Leadbeater*).

**Eusemia distincta.** (Plate LXXXII. fig. 3.)

Eusemia distincta, *Butler, Ann. & Mag. Nat. Hist.* ser. 4, vol. xv. p. 140. n. 5 (1875).

Allied to *E. maculatrix*, from which it differs in the interruption of the submarginal series of white spots in primaries; the two discal spots larger and snow-white instead of yellow: the secondaries bright orange instead of dull red, but with similar black border and spots. Expanse of wings 3 inches.

Silhet.

In some respects this species is more nearly allied to *E. irenæa* than to *E. maculatrix*; but that species has all the spots upon the primaries white and different in form, and the abdomen much more slenderly banded.

**Eusemia dives.** (Plate LXXXII. fig. 4.)

Also allied to *E. maculatrix,* but with the yellow spots of primaries larger and of a pale ochreous tint, those representing the central band more quadrate in form; the submarginal series of white spots better marked, the spots larger and longer: secondaries bright orange instead of dull red, with similar black markings, the white spots upon the border four in number and placed in pairs at apex and upon the median interspaces. Expanse of wings 3 inches 5 lines.

Darjiling (*Fotheringham*).

**Eusemia sectinotis.** (Plate LXXXII. fig. 5.)

Eusemia sectinotis, *Butler*, *Ent. Month. Mag.* xii. p. 117. n. 8 (1875).

Allied to *E. adulatrix,* much darker, the yellow band of primaries divided into two large spots; the lower discal spot also much smaller, and the subapical white spots of the submarginal series somewhat larger; anal red spot of secondaries larger. Expanse of wings 3 inches.

North India.

**Eusemia aruna.** (Plate LXXXII. fig. 6.)

Eusemia aruna, *Moore*, *Cat. Lep. E.I. Comp.* ii. p. 288. n. 659 (1858–59).

Primaries above black, with the veins towards the base, an oblique dash in the cell, and a lunated stripe upon the discocellulars sericeous, steel-blue in certain lights; a broad, oblique, irregular, pale-yellow central band composed of four unequal spots; a second, but regular, abbreviated band of four spots beyond the cell: secondaries black shot with blue, with a broad, irregular, central orange belt, notched in front at the end of the discoidal cell; apical fringe of primaries and entire fringe of secondaries snow-white: body above black; a slender white band at the back of the head; sides of collar bright orange; thorax clothed with dark green hair; abdomen crossed beyond the middle by three orange belts, and with ochreous anal tuft. Wings below slightly paler than above, without the sericeous bluish streaks; legs orange, varied with blackish; venter orange, banded with black. Expanse of wings 3 inches 3 lines.

Darjiling.

**NIKÆA,** *Moore.*

**Nikæa longipennis.** (Plate LXXXII. fig. 7.)

Hypercompa longipennis, *Walker*, *Cat. Lep. Het.* iii. p. 655. n. 14 (1855).

Primaries above black, with two white dots at base of costal border and a larger spot at basal fourth; two large creamy-white spots, one bifid within the end of the cell, but cut by

the subcostal vein, the other just beyond the middle of interno-median area; three white spots forming an oblique subapical series; a small spot near the apex and another near the external angle: secondaries bright orange, with the base, costa, apical area, and five spots (of which three form a central interrupted band, and two are upon the abdominal and anal margins) black; a white subapical spot: thorax black, the head spotted and the collar and tegulæ margined with testaceous; abdomen orange, with three longitudinal series of black spots; pectus buff, venter similar to the upper surface of abdomen. Wings below same colour as above. Expanse of wings 2 inches 9 lines.

Silhet; Darjiling (*Lidderdale*).

## SEUDYRA, *Stretch.*

### Seudyra longipennis. (Plate LXXXII. fig. 8.)

Catocala? longipennis, *Walker*, *Cat. Lep. Het. Suppl.* iii. p. 934 (1865).

Primaries pale fleshy brown, with the interno-median and internal areas nearly up to the outer border and a broad costal subapical patch rich laky brown clouded with sericeous grey; the former crossed by two divergent black-edged tawny lines and the latter enclosing a whitish-bordered black spot close to apex; external border darker than the rest of the ground-colour, varied with grey and bounded internally by a band composed of three parallel angulated black lines; a marginal series of pale-edged black lituræ; costa sandy brown; discoidal spots large, brown, with black centres and margins: secondaries orange, with an irregular submarginal black band not reaching the abdominal margin, deeply bi-sinuated internally between the costa and first median branch; apex and the fringe as far as first median branch brown: thorax deep purplish brown, the front of the collar reddish; abdomen orange, with a dorsal series of blackish spots. Primaries below with the base ochreous; apical half of costa and apical area ferruginous; outer half of cell white, with a large rounded black discoidal spot; a large subquadrate spot at the end of the cell, followed by a broad, abbreviated, angulated, white belt, crossed by black veins and bordered externally by a chocolate-brown stripe; interno-median area, excepting at base and external angle (which are sordid white), blackish brown; external area grey, with whity-brown border; fringe tipped with blackish: secondaries ochreous; external area, particularly at apex, irrorated with ferruginous scales, which are limited internally by an irregular bisinuated discal ferruginous stripe; a small black spot at the end of the cell: body below bright ochreous, inclining to orange at the sides; palpi black. Expanse of wings 2 inches 6 lines.

Silhet; Darjiling (*Fotheringham*).

Mr. Walker remarks that "this species recedes much from the typical form of *Catocala.*"

**Seudyra catocalina.** (Plate LXXXII. fig. 9.)

Phægorista catocalina, *Walker*, *Cat. Lep. Het. Suppl.* v. p. 1859 (1866).

Primaries above as in the preceding species, excepting that the discoidal spots are blackish with white margins: secondaries orange, with an externally dentate-sinuate abbreviated black band tapering from near the abdominal margin to the third median branch, and thence running inwards with an abrupt angle to the second subcostal branch; a rather large black spot at the end of the cell: body above as in the preceding species. Primaries below ochreous, with the costa orange; discoidal spots large and black; a broad interno-median black patch; external area suffused, particularly at apex, with ferruginous: secondaries orange, with external area and discal stripe nearly as in the preceding species; a large black spot at the end of the cell: body below ochreous; anterior legs and palpi blackish grey. Expanse of wings 2 inches 3 lines.

Darjiling (*Russell & Lidderdale*).

## CHALCOSIIDÆ.

### CHATAMLA, *Moore*.

**Chatamla tricolor.** (Plate LXXXIII. fig. 1.)

Primaries above with the basal half pale chrome-yellow, crossed by black veins; costal margin and inferior half of basal area black, the latter crossed upon the interno-median area by an internally diffused spot of the ground-colour; apical half semitransparent white, separated from the basal half by a very irregular interrupted black band, from which a somewhat similar discal band forks at the first median branch and proceeds to costal margin; veins black; outer border black, sinuated internally: secondaries bright chrome-yellow with black veins, the base and a very irregular band from the abdominal margin to costa black; apical border narrowly blackish: thorax black, yellow in front; abdomen yellow, banded with black. Wings below deeper in colour than above, markings similar: body below yellow, spotted with black. Expanse of wings 2 inches 8 lines.

Silhet.

Allied to *C. flavescens* (Ill. Lep. Het. i. pl. xiv. fig. 3).

### HETERUSIA*, *Hope*.

**Heterusia magnifica.** (Plate LXXXIII. fig. 2.)

Eterusia magnifica, *Butler*, *Trans. Ent. Soc.* 1879, p. 5.

Primaries above dark chocolate-brown, crossed before the middle by a broad irregular

* Incorrectly spelt *Eterusia*, and thus written by Walker and others.

yellowish-white belt, interrupted upon the nervures by ultramarine streaks; a dash across the base, a large spot at the end of the cell, two spots and a dash between them crossing the lower half of the disk, and an irregularly bisinuated subapical belt, divided by the veins into seven more or less ovoid spots, white; the discal spots with pale blue internal borders: secondaries black, crossed in the middle by a very broad externally angulated bright-yellow belt, which unites with a white costal streak running to the base; base, apex, outer border, and veins beyond the yellow belt metallic blue; two small spots beyond the cell and two between the second and fourth median branches white: thorax dark brown; the shaft of the antennæ, crest, two spots at the back of the collar, the tips of the tegulæ, metathorax, and two basal segments of the abdomen blue, changing in certain lights to green; internal angles of tegulæ white; remaining segments of abdomen yellow, with lateral black dots. Wings below nearly as above, but the white spots tinted with sulphur-yellow; all the veins blue-bordered: body below dark green; legs brown; coxæ white-spotted; segments of venter white-edged. Expanse of wings 2 inches 10 lines.

Cachar (*Grant*); Silhet.

In the specimens from Silhet the white spots of the subapical series upon the primaries are smaller than in the type.

**Heterusia virescens.** (Plate LXXXIII. fig. 3.)

Primaries above olive-green, crossed before the middle by a slightly arched white belt, which is intersected by the nervures and bordered externally with ultramarine-blue; a blue-edged white dot at the end of the cell and three across the lower half of the disk; five unequal subapical white spots forming an interrupted series: secondaries black, crossed near the middle by a broad arched white belt; base streaked with green; veins upon the disk and a submarginal irregular streak from anal angle to costa cobalt-blue; a dot at the end of the cell and a subapical series of three spots white: thorax olive-green, spotted with blue, and with a white dot at the inner angle of each tegula; antennæ blue; basal segments of abdomen green, remaining segments pale yellow. Wings below black, with blue veins and streaks, white margins broader than above: pectus blue, varied with green, and with two white spots in front; venter olive-green, banded with emerald-green and white, and with ochreous margin; anal segment opaline. Expanse of wings 2 inches 9 lines.

India.

This species is intermediate in character between the preceding species and *H. ædea*; the primaries much resemble those of *H. edocla.*

**Heterusia dulcis.** (Plate LXXXIII. fig. 4.)

Similar to *H. edocla* of Nepal, but differing in the larger spots upon the disk of primaries; secondaries also with an abbreviated bright yellow dash across the outer part of

the cell, a large trifid sulphur-yellow spot at the end of the cell, and two large spots of the same colour on the second and third median interspaces. Expanse of wings 2 inches 10 lines.

Darjiling (*Fotheringham & Lidderdale*).

## CHALCOSIA, *Hübner*.

### Chalcosia adalifa. (Plate LXXXIII. fig. 5.)

Chalcosia adalifa, *Walker* (nec *Doubl.**), *Cat. Lep. Het.* ii. p. 421. n. 2 (1854).

Primaries above with the basal half creamy white; apical half blue-black, with greenish and white veins; a streak of bluish green running along the basal half of the costal border; a zigzag white discal band and an angulated subapical band, both tapering towards their lower extremities: secondaries creamy white, with a blue-bordered apical black patch crossed by blue veins and interrupted by a diffused white spot and two decreasing blue submarginal spots: body white; front of palpi, prothorax, and tegulæ spotted with blue-green; head and collar scarlet; antennæ deep blue. Primaries below black, washed and streaked with blue; internal border and a diffused patch on interno-median area white; white bands nearly as above: secondaries saffron-yellow, with the costal and external borders white, the latter traversed by large blue-edged black spots: body below white; venter with lateral black spots. Expanse of wings 2 inches 6 lines.

North India.

## MILLERIA, *H.-Sch.*

### Milleria fuliginosa. (Plate LXXXIII. fig. 6.)

Cyclosia fuliginosa, *Walker*, *Cat. Lep. Het.* ii. p. 418. n. 8 (1854).

Primaries above smoky brown, with two longitudinal purple costal streaks; a blue spot at base; a central angulated belt of whitish spots, and a subapical series of eight small white dashes: secondaries smoky brown, with blue-green basal area and veins; outer border black, spotted with blue-green and whitish spots; a group of yellowish squamose spots in and beyond the end of the cell; abdominal border yellow: body greenish blue; head and collar scarlet. Primaries below with the base and veins broadly blue-green; white markings broader and more numerous than above: secondaries yellow, with the base, cell, costal margin, outer border, and veins black; five blue-bordered submarginal white spots and a blue costal streak: body below whity brown; collar as above and anterior coxæ scarlet. Expanse of wings 2 inches 5 lines.

Silhet.

* The "*Gynautocera adalifa*" of Doubleday, Ann. & Mag. Nat. Hist. ser. 1, vol. xix. p. 76 (1847), is identical with *Milleria virginalis* of Herrich-Schäffer, which it will supersede.

## PINTIA, *Walk.*

**Pintia ferrea.** (Plate LXXXIII. fig. 7.)

Eterusia ferrea, *Walker, Cat. Lep. Het.* ii. p. 431. n. 8 (1854).

♂. Primaries above rich chocolate-brown, with the median and internal veins, a streak on inner margin, and a spot at the base bright green; an abbreviated, oblique, subapical, yellowish band separated by the nervures into three unequal spots: secondaries smoky brown, with darker border, the veins broadly washed with green; an arched subapical series of four whitish spots, of which the first is largest: thorax rich chocolate-brown, the collar and tegulæ banded with green; antennæ and tips of palpi deep blue; abdomen dark green. Primaries below chocolate-brown; costa green, whitish at base; a white abbreviated subapical band and a broad, irregularly curved, longitudinal interno-median white streak: secondaries white, with the veins and outer border broadly dark brown; a submarginal series of dull blue spots: body below white, brown at the sides. Expanse of wings 2 inches 2 lines.

Silhet, Hong-Kong, &c.

## AMESIA, *Westw.*

**Amesia stelligera.** (Plate LXXXIII. figs. 8, 9.)

♂. Wings above rich chocolate-brown: primaries shot with golden bronze; the apical two fifths of costa and the outer border bright ultramarine-blue; two series of white dots parallel to outer margin: secondaries shot with purple, particularly towards the abdominal border; apex bright blue, three spots of the same colour enclosing white dots near the apical margin; three or four indistinct subapical white dots: body dark brown, touched here and there with steel-blue; anal fringe black, tipped with white. Wings below rather darker than above; primaries with the blue band extending further along the costal border, but on the external border not reaching the margin; a subbasal costal blue patch; two white dots placed obliquely within the cell, a third below the first median branch, the remainder as above: secondaries with the base of costa blue, with one white spot; a discal semicircle of five pale yellow spots; apical half of costal margin bright blue; seven blue-bordered submarginal white spots; pectus blackish, spotted with white; legs streaked with pale shining blue; venter dark green, with the anal segment and a marginal series of spots white. Expanse of wings 2 inches 11 lines.

♀. Larger than the male: primaries above coloured as on the under surface of the male: secondaries purplish brown; two yellowish-white dots placed obliquely near the end of the cell, and two spots beyond and parallel to them near the apex; a submarginal series of seven blue-bordered white spots: body and under surface nearly as in the male, excepting that the two discoidal dots of secondaries appear as above. Expanse of wings 3 inches 4 lines.

Bhotan (*Lidderdale*).

**Amesia aliris.** (Plate LXXXIII. fig. 10.)

Gynautocera (Amesia) aliris, *Doubleday, Ann. & Mag. Nat. Hist.* ser. 1, vol. xix. p. 74 (1847).
Cyclosia aliris, *Walker, Cat. Lep. Het.* ii. p. 415. n. 3 (1854).

Primaries above dark chocolate-brown; a basal spot, a subbasal spot in the cell, and a costal transverse line above the latter pale blue and white; a costal oblique angulated dash and three spots in the form of a triangle below it, forming a group across the base of the cell, orange; a dark blue spot at basal third of costa; apical half covered with blue-edged white dots, two of which are above the end of the cell, three within it, and two series across the disk: secondaries with a subcostal orange spot; a dot in the cell, an angulated series of five dots beyond it, and a submarginal series of seven spots, all white and broadly bordered with ultramarine-blue, a broad patch of which colour fills the subapical area: body blackish, sericeous; thorax spotted with pale blue, abdomen with a lateral line and the anal segment emerald-green. Wings below paler than above; all the spots larger and with blue borders, two or three additional blue spots: secondaries without the large blue subapical patch of the upper surface: body chocolate-brown, pectus spotted with white, legs streaked with ultramarine and green, venter with a marginal series of white dots. Expanse of wings 3 inches 4 lines.

Silhet.

## EPYRGIS, *H.-Sch.*

**Epyrgis imitans.** (Plate LXXXIV. fig. 1.)

Wings chocolate-brown, green spotted with white at base; primaries with a spot near the base of the costal area, a costal streak, two elongated subelliptical discoidal patches, the whole submedian area, excepting the veins and borders (which are broadly brown), a spot beyond the cell, encircled by an arched series of five ovoid spots, and six submarginal spots between the costa and the first median branch yellowish white: secondaries with the cell, excepting a central streak, the submedian area, excepting the outer border and two longitudinal streaks, and five elongated discal patches between the veins yellowish white: body emerald-green, with blue antennæ; head and thorax spotted with white; the sides of the abdomen, a dorsal longitudinal interrupted line, and the hinder margins of the segments white. Under surface with the white markings purer than above; the primaries with a white costal streak, the costa itself bluish green; the subcostal area, bases, and median veins of both wings shot with deep blue; pectus below metallic blue-green, spotted with white; venter creamy white. Expanse of wings 3 inches 4 lines.

Bhotan (*Lidderdale*).

This singular species, both in form and pattern, much resembles *Danais vulgaris*, a common Indian butterfly.

## CODANE, *Moore.*

### Codane zelica. (Plate LXXXIV. fig. 2.)

Gynautocera (Chalcosia) zelica, *Doubleday, Ann. & Mag. Nat. Hist.* ser. 1, vol. xix. p. 76, pl. vii. fig. 3 (1847).

Pidorus zelica, *Walker, Cat. Lep. Het.* ii. p. 425. n. 2 (1854).

Primaries above chocolate-brown shot with purple; basal half of costa shot with bluish green, with a bright blue spot at the base; basal fourth (excepting the costa) snow-white; a slightly oblique central white belt; three subapical white spots in an oblique series, the two lower ones indistinct: secondaries white, with a broad dark brown outer border, angulated internally, and narrowing abruptly below the first median branch; basal area sordid: head, shaft of antennæ, collar, and tegulæ blue; thorax white, spotted with blue; abdomen dull golden, banded with purple; anus orange. Wings below nearly as above, but the white sub-apical spots of primaries all distinct: secondaries with the costa brown, shot with blue, with a subcostal white spot at apical three fifths; a small submarginal white spot: body below ochraceous, the venter brightest, and with a lateral series of black dots; legs streaked with blue. Expanse of wings 1 inch 10 lines.

Silhet and Moulmein.

## LAURION, *Walk.*

### Laurion miles. (Plate LXXXIV. fig. 3.)

Primaries black; a bright yellow stripe running from the base along the costa to the middle of the wing, and then crossing the wing obliquely to near the extremity of the first median branch; a bright yellow subapical spot: secondaries dark brown, with the costal area and end of cell broadly scarlet; fringe yellow at apex: body dark brown, with a bright yellow collar. Wings below nearly as above, body with the central region yellow. Expanse of wings 1 inch 3 lines.

Darjiling (*Lidderdale*).

## RETINA, *Walk.*

### Retina rubrivitta. (Plate LXXXIV. fig. 4.)

Retina rubrivitta, *Walker, Cat. Lep. Het.* ii. p. 439. n. 1 (1854).

Primaries carmine-red, with the apical third of costal border and the internal half, excepting at outer margin, smoky brown, shot with dull green: secondaries smoky brown: thorax dark dull green, with two confluent carmine spots at the back of the head; abdomen smoky brown. Wings below as above, pectus spotted and venter banded with sordid white. Expanse of wings 1 inch 5 lines.

Silhet.

### AGALOPE, *Walk.*

**Agalope basalis.** (Plate LXXXIV. fig. 5.)

Agalope basalis, *Walker, Cat. Lep. Het.* ii. p. 438. n. 1 (1854).

Wings semitransparent cream-colour; primaries with the base orange; the veins, a spot across the middle of the cell, a transverse streak from base of first median branch, the apical area (excepting an oval spot near the apex), and the outer border grey: body blackish, thorax spotted with white; pectus whitish. Expanse of wings 1 inch 7 lines.

Almora, North India.

**Agalope glacialis.** (Plate LXXXIV. fig. 6.)

Nearly allied to the preceding, but snow-white, becoming slightly yellowish towards the base of the primaries; base more broadly and more brightly orange, with two small pearly-white basal dots; a blackish dot upon the costa at the outer margin of the orange area; grey areas as in *A. basalis,* excepting that the greater part of the cell is grey, and the transverse streak is better defined and reaches the inner margin: secondaries with grey fringe; body dark slaty grey, spotted with white, sides of anus testaceous. Body below blackish, spotted with white; venter with the sides and edges of the segments white. Expanse of wings 1 inch 7 lines.

Darjiling (*Lidderdale*).

**Agalope primularis.** (Plate LXXXIV. fig. 7.)

Agalope primularis, *Butler, Proc. Zool. Soc.* 1875, p. 392.

♂. Also allied to *A. basalis,* but the entire ground-colour of the primaries lemon-yellow, and the basal orange spot brighter; the grey spot distinctly uniting with the transverse stripe, the whole grey area darker, the end of the median vein broadly grey; secondaries pale sulphur-yellow: body similar to the preceding species. Expanse of wings 1 inch 6 lines.

Darjiling (*Sadler*).

This species flies in the month of May.

## ZYGÆNIDÆ.

### ARTONA, *Walk.*

**Artona discivitta.** (Plate LXXXIV. fig. 8.)

Artona discivitta, *Walker, Cat. Lep. Het.* ii. p. 440. n. 1 (1854).

Smoky brown; primaries above with slightly bluish costal border, interrupted just before

the middle by a small pale yellow spot; an interno-median streak extending to the end of the cell, and a quadrate spot beyond the cell pale yellow; secondaries with a broad streak below the median vein and a large spot at the end of the cell yellow: body above bluish grey, antennæ steel-blue, sides of head and thorax and margins of abdominal segments orange. Wings below paler than above, the yellow streaks and spots confluent; pectus brown, the legs yellow, venter yellow. Expanse of wings 9 lines.

Almora, North India (*Boys*).

**Artona zebraica.** (Plate LXXXIV. fig. 9.)

Artona zebraica, *Butler*, *Journ. Linn. Soc.*, *Zool.* vol. xii. p. 356. n. 2 (1876).

Nearly allied to *A. walkeri,* but smaller, the colour paler, and the spots and patches on the wings smaller, bands and streaks on the body more slender, those on the abdomen trigonal; abdomen below nearly white. Expanse of wings 8 lines.

Almora, North India (*Boys*).

**Artona confusa.** (Plate LXXXIV. fig. 10.)

Artona confusa, *Butler*, *Journ. Linn. Soc.*, *Zool.* vol. xii. p. 357. n. 7 (1876).

Nearly allied to *A. walkeri,* but with the abdomen ochreous, terminating in a broad black band; anus fringed with ochreous hairs; spots towards the apex of primaries connected, forming a large reniform spot; secondaries sometimes without the subcostal black dash. Expanse of wings 1 inch.

North India.

## NOTIOPTERA, *Butl.*

**Notioptera dolosa.** (Plate LXXXIV. fig. 11.)

Syntomis dolosa, *Walker*, *Cat. Lep. Het.* vii. p. 1594. n. 44 (1856).

Wings deep purplish brown, primaries crossed in the middle by three oval white spots; four spots in pairs, the upper pair small, beyond the cell: secondaries with pale costal area; two small whitish spots on the median interspaces: thorax deep blue; abdomen dark green; body below apparently black. Expanse of wings 1 inch 2 lines.

North India.

# ARCTIIDÆ.

## GLANYCUS, *Walk.*

### Glanycus insolitus. (Plate LXXXIV. fig. 12.)

Glanycus insolitus, *Walker*, *Cat. Lep. Het.* iii. p. 635. n. 1 (1855).

Scarlet: primaries with two purplish-blue spots across the basal area, and three just before the middle of the wing; a large pyriform purplish-brown patch covering the end of the cell and crossing the median branches, its inner margin interrupted by a hyaline dash upon the discocellulars; two spots on outer margin and the apical area bronze-brown: secondaries with pale brownish costal border; two or three basal streaks, a large spot on interno-median area, and another at the end of the cell deep purplish brown; outer half of cell hyaline; three equidistant blue-black submarginal spots; fringe blackish: head, collar, centre of tegulæ, sides of thorax and of the basal half of abdomen, and the edges of the remaining segments on each side brown, shot with blue-green: below almost as above. Expanse of wings 1 inch 6 lines.

Silhet.

## HYPERCOMPA, *Steph.*

### Hypercompa plagiata. (Plate LXXXV. fig. 1.)

Hypercompa plagiata, *Walker*, *Cat. Lep. Het.* iii. p. 655. n. 12 (1855).

Primaries dark shining green, spotted all over with large black-edged pale buff spots and patches, those at the base and in the cell more or less orange; these spots are arranged in six transverse series, that at the base consisting of three spots, the subbasal of two, the third and fourth series of three, the fourth of four, and the fifth (consisting of elongated pale patches which occupy nearly the whole discal area) of seven: secondaries bright ochreous, irregularly spotted with black, the first spot being below the origin of the first median branch, and the others forming two irregular interrupted bands across the disk; costal and external margins narrowly black, the latter being dentate-sinuate: body dark shining green, banded and spotted with orange; collar spotted with black. Expanse of wings 3 inches 8 lines.

Silhet.

## AREAS, *Walk.*

### Areas moorei. (Plate LXXXV. fig. 2.)

Areas moorei, *Butler*, *Cist. Ent.* ii. p. 23 (1875).

♂. Snow-white: scape of antennæ, front margin of collar, abdomen, and costa of

primaries scarlet; antennæ black; abdomen with a dorsal series of transverse black bars and lateral series of black dots: primaries with two minute black points at the end of the cell: secondaries with a black spot at the end of the cell, a second at apex, and a third near the margin on the discoidal interspace: palpi scarlet, fringed with white and tipped with black; coxæ and femora reddish above, knees and middle tibiæ above black; tarsi black, spotted with whitish. Wings below red at the base, with a black costal spot, otherwise as above. Expanse of wings 1 inch 6 lines.

Almora, North India (*Boys*).

This species may be at once distinguished from *A. lactinea* by its scarlet abdomen and the absence of black spots on the tegulæ.

## ICAMBOSIDA, *Walk.*

### Icambosida nigrifrons. (Plate LXXXV. fig. 3.)

Icambosida nigrifrons, *Walker*, *Cat. Lep. Het. Suppl.* ii. p. 401 (1865).

Snow-white: collar bright orange-yellow; antennæ and face black; wings semitransparent; secondaries with a small black spot at the end of the cell on both surfaces. Primaries below with a small black spot at base: anterior femora and tibiæ black internally; abdomen black at the sides, and banded with blackish on the ventral surface. Expanse of wings 1 inch 6 lines.

Darjiling (*Atkinson*).

Taken in the month of August at 7000 feet elevation.

### Icambosida rhodophila. (Plate LXXXV. fig. 4.)

Spilosoma rhodophila, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 294 (1864).
Spilarctia rhodophila, *Butler*, *Cist. Ent.* ii. p. 40 (1875).

Snow-white: front of head yellow, front of prothorax scarlet, antennæ with brown pectinations; abdomen rose-red, with a series of large black spots on each side: wings semitransparent; primaries with the costal margin yellow, an interrupted pale ferruginous line from apex to middle of inner margin, and three submarginal spots of the same colour divided by the lower radial and last two median branches: secondaries with a spot at the end of the cell, a second upon the radial interspace, and two lunate spots placed obliquely at anal angle: anterior coxæ scarlet; femora and tibiæ above dark brown; venter white, with lateral black dots. Wings below with the markings less distinct than above. Expanse of wings 1 inch 6 lines.

Darjiling (*Atkinson*).

## ALOA, *Walk.*

**Aloa diminuta.** (Plate LXXXV. fig. 5.)

♂. Aloa diminuta, *Walker*, *Cat. Lep. Het.* iii. p. 705. n. 8 (1855).
♀. Creatonotos emittens ♀, *Walker*, *l. c.* p. 639. n. 2 (1855).
Spilosoma strigata, *Walker*, *Charact. Lep. Het.* p. 10. n. 15 (1869).

Primaries above creamy white, fringe dotted with black externally between the veins; a black longitudinal streak just below the median vein, and interrupted by the median branches, and a black dot on the radial interspace: secondaries paler: thorax creamy white, face yellowish, antennæ with grey pectinations. Wings below snow-white: primaries with scarlet costal border; external border slightly sordid; submedian streak indistinct: body sordid white; anterior coxæ and femora scarlet in front. Expanse of wings 1 inch 2 lines.

North India (*Hamilton*).

**Aloa punctistriga.** (Plate LXXXV. fig. 6.)

♀. Spilosoma punctistriga, *Walker*, *Cat. Lep. Het.* iii. p. 676. n. 28 (1855).

Allied to the preceding species, but the primaries with no submedian black streak, the black dot on the radial interspace replaced by a short black dash. All the wings below with a black spot at the end of the cell; all the legs with the femora and the anterior pair with the coxæ red in front; knees black; tarsi crossed by one or two blackish bars. Expanse of wings 1 inch.

North India.

## ALPENUS, *Walk.*

**Alpenus spilosomoides.** (Plate LXXXV. fig. 7.)

Deiopeia spilosomoides, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 263 (1864).
Alpenus spilosomoides, *Butler*, *Cist. Ent.* ii. p. 34 (1875).

Primaries above chalky white, with six oblique series of unequal and somewhat confused black spots, costa spotted with black at the base; a marginal series of black spots: secondaries straw-yellow, with a submarginal series of blackish spots; three or four subapical marginal spots; a greyish dot at the end of the cell: thorax creamy white, collar and tegulæ spotted with black; abdomen bright ochreous, with dorsal and lateral series of black spots. Primaries below clouded with grey; a number of spots arranged as above, but dark grey instead of black: secondaries with submarginal and marginal spots rather larger than above, a spot interrupted by the subcostal vein, two placed obliquely above the end of the cell and one on the upper discocellular: body below yellow, legs blackish, sides of venter black-spotted. Expanse of wings 1 inch 5 lines.

North India (*Strachey*).

## ALPHÆA, *Walk.*

### Alphæa fulvohirta. (Plate LXXXV. fig. 8.)

Alphæa fulvohirta, *Walker, Cat. Lep. Het.* iii. p. 684. no. 1 (1855).

Primaries dark brown, with paler veins, crossed by six series of unequal white spots, the last series being marginal, a spot beyond the cell between the third and fourth series; all the series, excepting the marginal one, more or less angulated: secondaries snow-white, with an abbreviated fascia or elongated spot from the costa to the middle of the cell, a lunate spot at the end of the cell, two spots above the latter, and four widely separated submarginal spots, all dark brown: thorax black; head above white; collar edged with yellow and spotted with black; tegulæ white, with a longitudinal central black stripe; abdomen ochreous. Wings below as above; pectus blackish, spotted with whitish and yellow; venter cream-coloured, spotted with black. Expanse of wings 2 inches 1 line.

Darjiling.

## SPILARCTIA, *Butl.*

### Spilarctia abdominalis. (Plate LXXXV. fig. 9.)

Spilosoma abdominalis, *Moore, Cat. Lep. E. I. C.* ii. p. 356. n. 857 (1858–59).

♀. Primaries pale buff, with a black spot at basal fourth of costa, a curved black streak just before the middle of the inner margin, and a black dot, almost uniting with its commencement, above the submedian vein: secondaries white, tinted with buff, semitransparent; a black spot at the end of the cell: thorax pale buff; antennæ and palpi black; abdomen above scarlet, with dorsal and lateral series of black dots; anus white. Primaries below tinted with red, the costal black spot obsolete: secondaries as above: body below cream-coloured; anterior coxæ and femora above red; knees and tibiæ of all the legs above more or less black; venter with a lateral series of black dots. Expanse of wings 2 inches 4 lines.

North India (*Buckley*).

### Spilarctia lacteata. (Plate LXXXV. fig. 10.)

Primaries above creamy buff; a dot near the base below the median vein, an irregularly interrupted, slightly sinuous, oblique series of dots and dashes from apex to submedian vein, where it almost meets a curved streak on the inner margin, and four or five discal dots parallel to the outer margin black: secondaries white, semitransparent; a double dot at the end of the cell, an indistinct dot below the first median branch, a spot on the radial interspace, and an oblique series of three near the anal angle black: thorax creamy buff; the palpi, antennæ, and a dorsal longitudinal line behind the collar black; abdomen cream-coloured at base, otherwise scarlet, with white borders, dorsal and lateral series of black dots. Under surface

white; wings with pale buff costal borders; black markings of primaries less distinct than above, those of secondaries nearly as above: anterior femora carmine; tibiæ and tarsi of anterior and middle pairs of legs and the knees and femora of the posterior pair black. Expanse of wings 1 inch 11 lines.

Darjiling (*Lidderdale*).

The female of this species has the centres and hind margins of the abdominal segments greyish white and the anus snow-white; the oblique interrupted line of the primaries is also completely divided into two partly parallel series of spots.

*S. lacteata* has been confounded with *S. stigmata* of Moore, a smaller and more robust-looking species, with more heavily and more numerously spotted darker and shorter primaries.

**Spilarctia jucunda.** (Plate LXXXV. fig. 11.)

Primaries above pale buff, crossed obliquely from inner margin to lower radial vein by a well-defined black stripe, interrupted by the nervures; from the upper extremity of this stripe two series of black spots diverge, the inner series (which is indistinct) in a curved line to costa, the outer series in a line almost continuous with the oblique stripe to apex: secondaries semitransparent white, with cream-coloured fringe: thorax buff-coloured, paler towards the borders; palpi and antennæ black; abdomen sordid ochraceous, with the base and anus white. Primaries below altogether paler than above, the markings scarcely visible, excepting just beyond the cell, where they are black as above: secondaries tinted with buff, particularly upon the costa: body white, the prothorax and centre of venter tinted with buff; an orange tuft on each side of the eyes; anterior coxæ blackish; tarsi of all the legs black. Expanse of wings 1 inch 8 lines.

Darjiling (*Lidderdale*).

**Spilarctia nydia.** (Plate LXXXV. fig. 12.)

Spilarctica nydia, *Butler*, *Cist. Ent.* ii. p. 41 (1875).

Pale buff; primaries with a black spot near the base of the submedian nervure and two or three in an oblique series from the inner margin beyond the middle: secondaries with a black spot at the end of the cell, three large black spots placed obliquely near the anal angle, and two smaller apical submarginal spots: upper surface of palpi and front of thorax carmine; frons, antennæ, and tips of palpi black; abdomen crimson, with dorsal and lateral series of black spots. Primaries below with a large black spot at the end of the cell, and an oblique streak from the inner margin to near apex: secondaries as above: body below sordid buff; tibiæ and tarsi dark brown; venter with lateral series of black spots. Expanse of wings 2 inches 5 lines.

Nepal; Darjiling (*Lidderdale*).

**Spilarctia confusa.** (Platc LXXXV. fig. 13.)

Spilarctia confusa, *Butler*, *Cist. Ent.* ii. p. 42 (1875).

♂. Primaries above buff, with a faint pink tinge, with slenderly red costal margin; a black dot at base; a curved oblique series of black dots from inner margin to lower radial; several submarginal discal black dots (sometimes forming a zigzag series to apex): secondaries buff, with a distinct wash of rose-colour, deepest towards the abdominal margin; a black spot at the end of the cell; a black submarginal spot on the radial interspace and two or three near the anal angle with pale borders: thorax buff; palpi red, with brown tips; antennæ black; abdomen crimson, with dorsal and lateral black spots. Primaries below suffused with rose-red; a black spot at the end of the cell; apex pale: secondaries paler than above, very slightly tinted with pink; a black spot at the end of the cell: coxæ and upper surface of femora carmine; tibiæ and tarsi partially brown; venter cream-coloured, with a few lateral black dots. Expanse of wings 1 inch 7 lines.

North India.

## NAYACA, *Moore*.

**Nayaca imbuta.** (Plate LXXXVI. fig. 1.)

Arctia imbuta, *Walker*, *Cat. Lep. Het.* iii. p. 614. n. 38 (1855).

Primaries above dark brown, with several irregular large white markings on the interno-median and external areas, and two opposed curved series of small white spots just beyond the middle: secondaries dark brown, with the base of interno-median area, the basal half of the median vein and the submedian, a very irregular streak from the anal angle to the second median branch, a large costal patch enclosing a brown spot, and an interrupted external border sulphur-yellow: thorax dark brown; head yellow above; collar, with the margins and a central stripe enclosing a scarlet line, yellow; tegulæ bordered with yellow; abdomen scarlet, with dorsal and lateral series of black spots. Wings below nearly as above; secondaries yellow at base; a tuft of carmine hairs from the side of the pectus; pectus dark brown, femora scarlet in front; abdomen whitish, blotched and spotted with dark brown and with lateral scarlet dots. Expanse of wings 2 inches 3 lines.

Himalayas; Darjiling (*Lidderdale*).

**Nayaca divisa.** (Plate LXXXVI. fig. 2.)

Arctia divisa, *Walker*, *Cat. Lep. Het.* iii. p. 614. n. 39 (1855).
Ardices divisa, *Butler*, *Cist. Ent.* ii. p. 28 (1875).

Wings above cream-coloured, banded and spotted with dark brown: primaries with two large spots at the base, a costal streak almost uniting with the upper basal spot, and a large

patch which covers the greater part of the cell (this patch encloses a small spot of the ground-colour), beyond and below this are two other spots, the one beyond being costal and intersected by yellow veins; a broad interrupted oblique band from apex to inner margin, a submarginal series of spots, and a series on the fringe: secondaries semitransparent towards the base, crossed in the middle by an irregular dark-brown band; an interrupted submarginal band, a series of marginal spots, and a series of smaller spots on the fringe: thorax cream-coloured, with the dorsal region, two large spots on the collar, and the tegulæ, excepting at their margins, dark brown; abdomen crimson, with a dorsal brown stripe terminating in one or two black spots, and a lateral series of black spots. Wings below paler than above: body below cream-coloured, a lateral tuft from the pectus; the fringes of the anterior coxæ and femora rose-red; venter with a lateral series of black spots. Expanse of wings 1 inch 10 lines.

Himalayas.

Although this species exhibits characters in common with *Ardices fulvohirta,* it seems to fall more naturally into the genus *Nayaca.*

**Nayaca florescens.** (Plate LXXXVI. fig. 3.)

♂. Nayaca florescens, *Moore, Descr. Ind. Lep. Ins. Coll. Atk.* p. 43 (1879).

♀. Considerably larger than the male: primaries olivaceous brown, veins ochre-yellow; a white spot enclosing a black dot at base, a small spot at basal sixth of costa, a large patch, interrupted by the subcostal vein, near the end of the cell, an angulated series of spots enclosing a cuneiform costal area beyond the cell, a streak and dot in the first median interspace and a dot in the second median interspace, a very irregular longitudinal interno-median streak from base to near external angle, where it forks to the margin, a marginal series of irregular spots and patches, all white: secondaries white, veins yellowish; the basal area dull brown; a large patch at the end of the cell, two costal spots beyond it, a broad irregular band from the middle of the radial interspace to the anal angle, and the tips of the veins dark brown: thorax snow-white, with the dorsal region, two large spots on the collar, and a broad streak on the tegulæ blackish brown; margins of collar and abdomen brilliant carmine, the latter with dorsal and lateral black spots. Wings below almost as above; pectus dark brown; margins of anterior coxæ carmine; femora of all the legs carmine in front and snow-white behind; venter dark brown in the centre, snow-white, with a series of large dark brown spots, at the sides. Expanse of wings 2 inches 7 lines.

Darjiling (*Lidderdale*).

The female of this insect is so much handsomer than the male described by Mr. Moore, and differs so much from that sex, that we have been induced to include it in this series of types.

## RAJENDRA, *Moore*.

**Rajendra tripartita.** (Plate LXXXVI. fig. 4.)

Aloa tripartita, *Walker, Cat. Lep. Het.* iii. p. 706. n. 11 (1855).

Primaries above dark brown; a spot at base of interno-median area, a large spot divided by the median vein, which is brown, an oblique discal band from apex to submedian vein, divided by the veins into seven parts, and a marginal series of unequal spots, white: secondaries pale ochreous, costa dark brown, veins brown: face pale brown; crest pale buff; collar buff, with the centre brown; tegulæ buff, with brown borders; thorax dark brown; abdomen buff, with bright ochreous borders and dark brown transverse spots down the middle. Wings below slightly paler than above: body below dark brown. Expanse of wings 1 inch 6 lines.

North India.

# LITHOSIIDÆ.

## PENTACITROTUS, gen. nov.

Allied to *Coracia*, of the same general form and size. Wings elongated, rounded at apex: primaries with the costal vein terminating at the middle of the costal margin; subcostal five-branched, the first branch emitted at about the middle of the cell, the second a short distance before the end, the three others (which are all distinctly separate at their origins) from the superior angle of the cell; radials emitted from the discocellulars at equal distances from each angle of the cell; first median branch emitted from external third of the cell, and the two others from the inferior angle and almost from the same point: secondaries with the costal vein extending to apex; subcostal emitting its two branches from the superior angle of the cell; upper discocellular long and concave, lower discocellular short and oblique; median vein emitting its first branch just beyond the middle of the cell and the second and third from one point at the end. Thorax broad and very slightly convex: head short and wide, about half the width of the thorax at its widest part; palpi small and slender, scarcely extending beyond the front of the head; antennæ rather slender, ciliated on both sides with little tufts of fine curved hair, which give them a pectinated appearance; a tuft of coarse bristles projecting from each side of the head behind the eyes. Legs very thick, the two posterior pairs with strong spines. Type *P. vulneratus*.

**Pentacitrotus vulneratus.** (Plate LXXXVI. fig. 5.)

Primaries above black, shot with dark green; a patch at base, a semicircular costal spot, an elongated transverse patch across the lower half of the wing, a subapical costal patch, a patch on outer margin near external angle, and a curved band connecting the last two patches blood-red, with a few central opaline scales; these patches are partly encircled at a short distance

by slender amethyst-coloured metallic lines; fringe at apex snow-white: secondaries black with chocolate reflections, with a broad cuneiform subcostal scarlet patch; costal border white; fringe orange, touched with scarlet at the base: body purplish black; abdomen with orange margins to the segments. Primaries below purplish black, with the patches of the upper surface scarlet instead of blood-red; no opaline scales or amethyst-coloured lines; fringe as above: secondaries with the costa orange, the base purplish black: body below black, shot with steel-bluc; the venter with white segmental rings. Expanse of wings 11 lines.

Darjiling (*Lidderdale*).

## DOLICHE, *Walk.*

### Doliche gelida. (Plate LXXXVI. fig. 6.)

Doliche gelida, *Walker, Cat. Lep. Het.* ii. p. 529. n. 1 (1854).

Primaries above white; extreme base greyish brown, an irregular pale testaceous patch enclosed in a circle of squamose blackish dots near the base; a pale ochraceous band across the basal fourth, and a second across the end of the cell, connected by a broad oblong patch of the same colour occupying the greater part of the interno-median area; an oblong squamose blackish streak in the cell between the two ochraceous bands, and a shorter slightly oblique oblong patch beyond the second band; an almost marginal internally undulated red band which does not quite reach the costa; fringe sordid white: secondaries rose-red, with creamy whitish fringes and costal border: body above snow-white, thc posterior half of the abdomen tinted with rose-red. Wings below rose-pink: the primaries with the discoidal area smoky brown; the costa testaceous, dusky towards the base; the apex and a slender external border snow-white; fringe sordid white: secondaries with yellowish costal border, the fringe at apex and along abdominal border white, the rest of the fringe creamy whitish: body below white; the antennæ, terminal joint of palpi, proboscis, and tarsi yellow. Expanse of wings 1 inch 2 lines.

Silhet.

## BIZONE, *Walk.*

### Bizone pallens. (Plate LXXXVI. fig. 7.)

♀. Bizone pallens, *Butler, Trans. Ent. Soc.* 1877, p. 338. n. 89.

♂. Primaries above white, crossed by four nearly equidistant scarlet bands, the fourth of which is curved and submarginal; three black spots in a triangle upon the end of the cell, the innermost one united to a scarlet spot; the usual thickened costal patch crossed by the third scarlet band, which upon this patch is suffused with orange; a dull orange or ochreous subapical patch below the extremity of the costal patch: secondaries rose-pink, with yellowish costal area and white fringes: head, thorax, and base of abdomen white; collar with scarlet

posterior margin; posterior half of abdomen cream-coloured, tinted with pink. Wings below rose-coloured, with white fringes; primarics with white internal border: body below white, tibiæ and tarsi greyish above. Expanse of wings 1 inch.

♂, Darjiling (*Lidderdale*); ♀, Silhet, Moulmein, &c.

This species and its allies may eventually have to be generically separated from the following, which must be regarded as the type of *Bizone*—since, in spite of their similarity of coloration, the costal fold on the upper surface of their primaries is only represented by a thickened mass of projecting scales over the end of the cell and the costal margin above it; on the under surface of these wings also the corresponding pouch is abbreviated and much less prominent (this peculiarity exists in the whole of the species of the *B. puella* group): a third group, of which *B. hamata* is typical, has an abbreviated fringed costal fold or pouch on the upper surface.

**Bizone perornata.** (Plate LXXXVI. fig. 8.)

Bizone perornata, *Walker, Cat. Lep. Het.* ii. p. 548. n. 1 (1854).

♂. Wings above snow-white, primaries crossed by three equidistant scarlet bands, the commencement of a fourth represented by a subapical internally-dentated streak; extremity of costal fold also scarlet; the inner edge of the second band, the outer edge of the third, and a large spot at the end of the cell black: secondaries with a diffused pink external border not extending to apex: thorax white, the back of the collar and tegulæ and a large spot on the middle of the thorax scarlet; abdomen rose-red, with white anal fringe. Under surface of wings snow-white, the primaries with a broad fleshy bilobed vermilion costal pouch, the costa streaked with vermilion; body below sordid white, the coxæ and femora reddish in front, the tibiæ streaked in front with black; the tarsi of the first and second pairs of legs black above, those of the third pair banded with greyish. Expanse of wings 1 inch 9 lines.

Silhet.

## CYANA, *Walk.*

**Cyana detrita.** (Plate LXXXVI. fig. 9.)

Cyana detrita, *Walker, Cat. Lep. Het.* ii. p. 529. n. 1 (1854).

Snow-white: primaries crossed by five irregular interrupted pale sandy-brown bands, which become blackish on the costal border; a darker brown, acutely angulated, stripe close to the base; all the bands excepting the submarginal one are more or less diffused; three blackish spots forming a triangle within the end of the cell: palpi brown; antennæ brown, annulated with white; thorax spotted with brown. Primaries below pale smoky brown, with whitish internal border and creamy white outer border; secondaries snow-white: body below white, tibiæ and tarsi broadly banded above with brown. Expanse of wings 1 inch 6 lines.

Silhet.

## DEIOPEIA, *Steph.*

### Deiopeia cruentata. (Plate LXXXVI. fig. 10.)

Allied to *D. venusta*: primaries grey; the costal border crossed by five yellow-edged quadrate scarlet spots; several black spots at the base; three white-edged scarlet spots below the cell, the two last enclosed by the same white border and united by white bands of unequal width to the third and fourth costal spots; four white-edged scarlet spots on the lower half of the interno-median area and five with confluent borders near the outer margin; external border broken up by white projections from the submarginal band of spots into dark grey spots, which extend into the white fringe; internal border cream-coloured, spotted at base and beyond the middle with blackish: secondaries snow-white, semitransparent; two blackish costal spots visible through the texture of the wing; two blackish dots on the disco-cellulars; apical area and outer border to submedian vein broadly black-brown: head and thorax bright ochreous, spotted with scarlet and striped and spotted with black. Primaries below black, with whitish-edged irregular carmine bands on the external half, and with elongated carmine and white spots on the basal half: secondaries white, with two costal spots, an oblique subapical belt with zigzag inner edge, an apical spot, an irregular patch on the external border, and the fringe dark brown; costal border between the brown markings spotted with pink; pectus white, spotted with black; legs blackish above; venter white, with black marginal dots. Expanse of wings 1 inch 10 lines.

North India and Mauritius.

There are four examples of this beautiful species in the collection, two from India and two from Mauritius.

## MILTOCHRISTA, *Hübn.*

### Miltochrista nubifascia. (Plate LXXXVI. fig. 11.)

Barsine nubifascia, *Walker, Cat. Lep. Het. Suppl.* i. p. 251 (1864).
Barsine punctifascia, *Walker, Char. Undescr. Lep.* p. 9. n. 13 (1869).

Primaries above stramineous, crossed near the base by a curved series of brown dots and just before the middle by two parallel series; a broad externally bisinuated greyish-brown discal band: secondaries and body cream-coloured. Under surface cream-coloured; primaries with the basal half of costal border, a nearly central maculated band, which is continued by two dots across the costa of secondaries, and an abbreviated bisinuated discal band brown; anterior tarsi banded above with black. Expanse of wings 1 inch 3 lines.

Darjiling (*Atkinson*).

**Miltochrista tessellata.** (Plate LXXXVI. fig. 12.)

Primaries above ochreous, crossed by three black-brown lines, the innermost of which is broadly zigzag, its upper angle touching the second; the second line is strongly angulated and touches the third, which is biangulated and emits three longitudinal streaks towards the outer margin; the margin black: secondaries slightly paler than the primaries, immaculate: body ochreous, with a black dot on each shoulder. Under surface pale ochraceous, bands of primaries indistinct; secondaries with the apex dark brown. Expanse of wings 10 lines.

Darjiling (*Lidderdale*).

**Miltochrista mactans.** (Plate LXXXVI. fig. 13.)

Barsine mactans, *Butler, Trans. Ent. Soc.* 1877, p. 340. n. 109 (1877).

Primaries scarlet, veins for the most part yellow; the base of costal margin, an elbowed line near the base, a central transverse series of spots upon a yellow line, and a widely sinuated discal line, emitting longitudinal streaks externally along the veins, grey: secondaries pale rose-colour with whitish fringe: thorax red, abdomen rose-colour. Under surface rose-colour. Expanse of wings 1 inch 3 lines.

Darjiling (*Sadler*).

## TEULISNA, *Walk.*

**Teulisna tetragona.** (Plate LXXXVI. fig. 14.)

Lithosia tetragona, *Walker, Cat. Lep. Het.* ii. p. 510 (1854).

Wings cream-coloured; primaries with a semicircular black costal spot near the apex, and a large oblong patch, filling the whole central area between the subcostal vein and inner margin, black-brown; fringe grey, spotted with white: frons and terminal joint of palpi brown; vertex of head and collar bright yellow; thorax and a large patch on each tegula dark brown; abdomen testaceous. Wings below cream-coloured, with ochreous costal borders; primaries ochreous at base, the whole central area dark greyish brown: body below testaceous, anterior legs blackish above. Expanse of wings 1 inch 4 lines.

Silhet.

**Teulisna sordida.** (Plate LXXXVI. fig. 15.)

Allied to the preceding species, but the primaries with the costal spot larger, the oblong patch more elongated and of an irregular shape; a blackish spot near base of internal area; secondaries with a broad diffused greyish belt on external area: body similar. Primaries below

as in *T. tetragona*; secondaries with two large grey patches on the disk: body below grey, legs brownish. Expanse of wings 1 inch 5 lines.

Darjiling (*Lidderdale*).

### CASTABALA, *Walk.*

**Castabala roseata.** (Plate LXXXVII. fig. 1.)

Castabala roseata, *Walker*, *Cat. Lep. Het. Suppl.* i. p. 271 (1864).

Primaries above greyish brown; base of costa slaty grey; basal half with three costal spots, a spot within the end of the cell, the base of inner border, and a stripe from the median vein to the inner margin orange; an elbowed stripe from costa to inner margin beyond the middle, expanding at its extremities, and the external border orange: secondaries with the basal two thirds rose-pink, the external third dull sericeous blackish; fringe tipped with orange at apex: head and collar scarlet; tegulæ and front of thorax slaty grey, back of thorax and abdomen scarlet. Wings below dull rose-colour, with a blackish transverse streak just before the middle; primaries with the costal and external borders orange; an irregular band before the middle and a broad belt filling the greater part of the disk blackish: secondaries with the external third blackish: body below scarlet, legs black, tibiæ tipped with orange. Expanse of wings 2 inches.

Barrackpore (*Hearsay*); Darjiling (*Lidderdale*).

### AGRISIUS, *Walk.*

**Agrisius guttivitta.** (Plate LXXXVII. fig. 2.)

Agrisius guttivitta, *Walker*, *Cat. Lep. Het.* iii. p. 723. n. 1 (1855).

Sericeous white: wings above with the veins black excepting towards the base; basal half of primaries covered with black spots, an oblique series of black dots just beyond the cell; collar and tegulæ spotted with black; abdomen with two longitudinal series of quadrate black spots. Primaries below sordid, with brown veins and internervular streaks; no black spots on the basal area: secondaries white with blackish veins: legs and venter banded with black. Expanse of wings 1 inch 9 lines.

Darjiling.

### MACROBROCHIS, *H.-Sch.*

**Macrobrochis atrata.** (Plate LXXXVII. fig. 3.)

Lithosia gigas, var. ♀, *Walker*, *Cat. Lep. Het.* vii. p. 1681 (1855).

♀. Black-brown: primaries with a faint purple reflection; veins on basal area steel-

blue; a white spot at the base; a whitish squamose spot near the base of interno-median area: secondaries with cream-coloured basal third: body shot with steel-blue; head, collar, and inner border of tegulæ orange; abdomen with a lateral series of white spots, anus orange. Wings below black: primaries with a white streak near the base of interno-median area; two whitish spots on the radial interspaces *: secondaries with the basal half, excepting at costa, white: body below orange, legs black, venter with a row of triangular black spots on each side; the white lateral spots of the upper surface are also visible. Expanse of wings 3 inches 4 lines.

Darjiling (*Lidderdale*).

*M. atrata* is most nearly allied to *M. nigrescens*, Moore.

**Macrobrochis gigas.** (Plate LXXXVII. fig. 4.)

♂. Lithosia gigas, *Walker, Cat. Lep. Het.* ii. p. 494. n. 1 (1854).

Black-brown: primaries with greenish reflections, particularly towards the base; a white dot at the base; an elongated cream-coloured patch on the interno-median interspace towards the base; a costal streak, a large spot within the extremity of the cell and a larger one below it creamy white; eight elongated discal patches or streaks, the first extremely narrow, quite linear, the second almost linear, divided in the middle, the remainder larger; a space between the fourth and fifth, the seventh very long and divided by a brown bar: secondaries with the basal half white, veins and external half black-brown; a few very indistinct whitish streaks between the veins towards the apex: body above almost as in the preceding species. Wings below dark brown; primaries with seven large oval spots across the disk, otherwise as above: secondaries with the basal half excepting the veins and costa, a subcostal streak almost to apex, and five decreasing spots from the latter to the first median interspace white: body below orange; legs dark brown, shot with steel-blue; venter banded with steel-blue and with a lateral series of white spots on a black ground. Expanse of wings 2 inches 10 lines.

India.

The type described by Walker is placed last in his enumeration of the specimens which formerly represented this species in the collection; unfortunately no locality is given, but it is probable, from its close resemblance to *M. interstitialis* (which may even be a large variety of it), that it comes from the N.E. Himalayas.

**Macrobrochis albicans.** (Plate LXXXVII. fig. 5.)

♀. Primaries above purplish black, shot towards the base with dark green; a number of white markings almost as in the preceding species, but considerably broader, snow-white: secondaries snow-white, the apex, costal and outer margins, veins beyond the middle, and

* In some examples these are white and are present on both surfaces.

a large quadrate patch at anal angle black: thorax as in the preceding species, with bright green reflections; abdomen purplish grey, shot with green here and there in certain lights, hind margins of the segments white. Wings below nearly as above: body bright orange; legs black, shot with dark green; venter with black and white lateral spots. Expanse of wings 3 inches 3 lines.

Bhotan (*Lidderdale*).

Nearest to *M. leucospilota* of Moore.

## PHILONA, *Walk.*

### Philona inops. (Plate LXXXVII. fig. 6.)

Philona (Hypsa) inops, *Walker*, *Cat. Lep. Het.* ii. p. 457. n. 18 (1854).

Primaries above pale greyish buff, sericeous; veins whitish; base whitish, spotted with grey: secondaries ochreous, with a broad dark-brown apical border tapering to the first median branch: thorax pale buff, the collar whitish; a grey spot on each shoulder; abdomen ochreous, with a dorsal series of black dots. Primaries below with the basal three fifths white excepting the costal border, which is brown, the base itself ochreous; an oblique dusky discal belt limiting the white basal area and narrowing from the costa to the inner margin; external area pale brown: secondaries ochreous, with apical border as above, but paler; costal border brown; costal and subcostal veins white: body below pale ochreous, pectus with large lateral black spots, venter with a series of black dots on each side. Expanse of wings 2 inches 3 lines.

Silhet (*Stainsforth*).

## DAMALIS, *Hübn.*

### Damalis plaginota. (Plate LXXXVII. fig. 7.)

Hypsa (Damalis) plaginota, *Butler*, *Trans. Ent. Soc.* 1875, p. 320. n. 19.

Nearly allied to *H. alciphron*, but the nervures of the primaries clearly defined in cream-colour; the basal yellow area more extended; a large cream-coloured subcuneiform patch, the apex of which is within the cell, filling up the bases of the second median and lower radial interspaces; above it (at the superior angle of the cell) a small spot of the same colour; under surface with all the spots black and well defined, excepting two near the costa of secondaries towards the apex: primaries with a broad cream-coloured area, covering and surrounding the extremity of the cell: secondaries with the apical brown border ill-defined. Expanse of wings 2 inches 8 lines.

N.E. India.

**Damalis egens.** (Plate LXXXVII. fig. 8.)

Hypsa (Damalis) egens, *Walker*, *Cat. Lep. Het.* ii. p. 453. n. 12 (1854).

Bright ochreous: primaries with the veins cream-coloured; an ill-defined orange belt across the wing just before the middle; five black spots representing a nearly regular pentagon at the base: secondaries with whitish costa: body darker than the wings, almost orange in colour, a black spot on each tegula; abdomen with a dorsal series of black spots. Wings below pale ochreous, with the external area brownish, distinctly streaked with blackish brown on the secondaries; primaries with a large black spot in the cell and an irregular patch at the end of the cell: secondaries with a black bifid costal spot, a spot in the cell, two at the end of the cell, a streak beyond the cell, and a dash on the interno-median area: body below bright ochreous; legs white, black towards their proximal extremities; venter with lateral series of black dots. Expanse of wings 2 inches 7 lines.

Silhet, Moulmein, Java.

## HYPSA, *Hübn.*

**Hypsa lacteata.** (Plate LXXXVII. fig. 9.)

Allied to *H. persecta* of Ceylon, but considerably larger: the ground-colour of the wings of a purer white tint; the white patch just beyond the cell of the primaries of about six times the size; the large white area which covers the greater part of the discoidal and interno-median regions more expanded, extending further towards the outer margin; the black basal spots more crowded together, the discoidal spots blackish; the spots of secondaries wider apart; the body deeper in tint, the abdomen more distinctly black-banded. Below, the oblique abbreviated black fascia at the end of the cell of primaries is replaced by an irregular transverse black spot. Expanse of wings 2 inches 8 lines.

♂, Darjiling (*Lidderdale*); ♀, Silhet (*Stainsforth*).

## NEOCHERA, *Hübn.*

**Neochera marmorea.** (Plate LXXXVII. figs. 10, 11.)

♂. Hypsa marmorea, *Walker*, *Cat. Lep. Het.* vii. p. 1674 (1856).
♂ ♀. Hypsa (Neochera) dominia, *Walker* (nec *Cramer*), *l. c.* ii. p. 448. n. 4 (1854).

♂. Primaries above greyish brown, brilliantly shot with pale greenish blue; veins white; outer border blackish; sexual mark on internal border greyish brown, much swollen: secondaries white, with the costal and external borders broadly dark brown, brilliantly shot with steel-bluc and interrupted by white veins; a large blackish patch at the end of the cell: body above orange; head black, spotted with white; collar black, bordered with orange and spotted with white; tegulæ spotted upon the shoulders and in the middle with black; thorax spotted

with black in front and behind; abdomen with dorsal and lateral series of black spots. Primaries below with the basal three fourths shot with purplish blue; all the white veins and streaks excepting the central discoidal and interno-median ones obsolete: secondaries with no blackish patch at the end of the cell, otherwise as above: pectus white, covered with large black spots: legs black, the femora with white fringe; venter orange, with lateral series of black spots. Expanse of wings 3 inches 2 lines.

♀. Primaries above greyish white, with white veins and indications of the markings of the under surface: secondaries snow-white; a large blackish patch at the end of the cell; nine submarginal ovoid black patches, shot with blue: body ochreous, tegulæ with black spots nearly as in the male but smaller; thorax spotted with black behind; abdomen pale, with a dorsal series of black dots. Under surface snow-white: primaries with a costal streak, the front and back of the cell, and a belt to the external angle purplish black; external area greenish, crossed by white veins: secondaries with the costal and external borders and a large patch at the end of the cell blackish, shot with green: pectus spotted with black; venter with lateral series of black spots; anus bright ochreous. Expanse of wings 3 inches.

Silhet (*Stainsforth*); Darjiling (*Lidderdale*); Moulmein (*Clerck*).

## NYCTEMERIDÆ.

### **LEPTOSOMA**, *Boisd.*

**Leptosoma latistriga.** (Plate LXXXVIII. fig. 1.)

Nyctemera latistriga, *Walker*, *Cat. Lep. Het.* ii. p. 397. n. 15 (1854).

Primaries dark chocolate-brown; basal third streaked with white; a broad elongated subcuneiform white patch on the interno-median area, extending from the base to beyond the middle of the wing; a broad oblique discal white belt, slightly interrupted at the third median branch, and abruptly expanded into an oval patch between the first and second branches: secondaries white, with broad, internally-sinuated, external dark chocolate-brown border: body pale yellow, darkest at the extremities; the head and collar spotted, the thorax longitudinally striped, and the abdomen transversely banded with dark brown; antennæ dark brown. Wings below nearly as above, but the primaries not streaked at the base; body bright ochreous, with lateral series of black spots. Expanse of wings 1 inch 7 lines.

Silhet (*Stainsforth*); Moulmein (*Clerck*); Ceylon (*Templeton*).

### **ZONOSOMA**, gen. nov.

Allied to *Leptosoma* and *Pitasila*, but differing from the former in its broader wings; primaries with the costal vein only extending to the second third of the margin; subcostal branches considerably wider apart, the second branch slightly angulated; upper radial emitted

from the subcostal vein just beyond the cell, instead of being an independent vein; radial of secondaries emitted at a greater distance from the third median branch. From *Pitasila* it differs in its more strongly angulated discocellular veinlets, in the upper radial of primaries being emitted from the subcostal, and in the subcostal branches of secondaries emitted from a footstalk, instead of at one point from the end of the cell. Type *Z. interlectum.*

**Zonosoma interlectum.** (Plate LXXXVIII. fig. 2.)

Nyctemera interlecta, *Walker, Cat. Lep. Het.* ii. p. 400. n. 21 (1854).

Wings above white, semitransparent; five short radiating basal streaks, two oval spots near the base of interno-median interspace, a large irregular patch crossing the cell and terminating in the first median interspace, a somewhat similar patch from inner margin to first median branch, the apical area, a broad internally excised patch on the external border, only separated by a longitudinal white stripe from the apical area, and a spot at external angle olivaceous brown: secondaries with a spot at the base of cell, an elongated subcostal spot, three large marginal patches, and one or two dots brown: body chrome-yellow; the head, thorax, and base of abdomen spotted, and the remainder of the abdomen transversely banded with black. Wings below as above; pectus chrome-yellow, spotted with black; venter paler yellow, with lateral series of black spots. Expanse of wings 1 inch 11 lines.

Silhet.

**TRYPHEROMERA**, gen. nov.

Also allied to *Pitasila,* but differing in the possession of a short postdiscoidal cell in the primaries, the third branch of the subcostal being united to the second at a short distance beyond the cell, and emitting the fifth branch before its junction with the second; the subcostal branches of secondaries emitted from a short footstalk, and the first median branch considerably nearer to the second. Type *T. plagifera.*

**Trypheromera plagifera.** (Plate LXXXVIII. fig. 3.)

Nyctemera plagifera, *Walker, Cat. Lep. Het.* ii. p. 400. n. 22 (1854).

Wings white, semitransparent: primaries with the veins more or less bordered with brown; a very irregular forked brown band from submedian to subcostal vein; apex and external border to first median branch brown, interrupted upon the margin by a series of white spots; a brown spot at external angle: secondaries with a very irregular abbreviated band at the end of the cell; six submarginal brown spots, the first and second widely separated, the third very minute, the fifth and sixth small: body above white, washed with yellow at the extremities; thorax spotted with black; abdomen with dorsal and lateral series of black dots; antennæ black. Wings below as above; pectus yellow at the sides, black-spotted; venter white,

with lateral series of black spots; terminal segments yellowish; anus yellow. Expanse of wings 2 inches 2 lines.

Silhet and Hong-Kong.

### PITASILA, *Moore*.

#### Pitasila varians. (Plate LXXXVIII. fig. 4.)

Nyctemera varians, *Walker, Cat. Lep. Het.* ii. p. 400. n. 23 (1854).

Wings above snow-white, semitransparent; primaries with two blackish basal spots; two parallel, irregular, arched, brown bands across the basal half, connected with one another and with an abbreviated band across the end of the cell by a longitudinal median streak of the same colour; two subconfluent brown spots across the interno-median area; an angular streak across the base of second median interspace; external border very broadly and irregularly brown, its inner margin unevenly sinuated; a white spot at apex, and several large ones between the third median branch and the external angle: secondaries with a large costal patch, and a second below the cell connected by a slender line, two small irregular spots above the end of the cell, a large subapical costal patch, and three on external area brown: body white, slightly yellowish at the extremities; thorax spotted with black; abdomen with dorsal and lateral series of black spots. Wings below as above; body below yellow, spotted as above with black. Expanse of wings 2 inches 3 lines.

North India and Moulmein.

## LIPARIDÆ.

### EPICOPEIA, *Westw.*

#### Epicopeia excisa. (Plate LXXXVIII. fig. 5.)

♂. Similar to *E. polydora,* but the secondaries more elongated, less deeply sinuated between the apex and the caudal extremity, and much more deeply sinuated between the median branches, the white band much more angulated and placed further from the base, the submarginal rose-bordered spots increasing in size from the anal angle to the caudal extremity, instead of in the reverse direction. Primaries below with a large costal red spot above the end of the cell; white band of secondaries below commencing with a red spot upon the costa. Expanse of wings 4 inches 3 lines.

♀. Considerably larger than the male, the primaries broader, the submarginal spots of secondaries pale yellowish flesh-coloured instead of rose-red. Expanse of wings 5 inches 6 lines.

Chukrata, N.E. Punjab (*Lidderdale*).

The *E. philoxenæa* of Moore is a third species of this section of the genus, which, though it has the secondaries quite as much elongated, does not possess the deeply excised outer margin between the median branches.

**Epicopeia lidderdalii.** (Plate LXXXVIII. fig. 6.)

♂. Allied to *E. diphilæa*: primaries the same; secondaries with the concavity between apex and caudal angle longer, the process at the extremity of the second median branch shorter; the white patch subquadrate, nearest to the outer margin between the second and third median branches, but considerably further from it than in *E. diphilæa*; a bright carmine fasciole between the first median branch and the extremity of the submedian vein; two submarginal carmine spots upon the median interspaces. Below, all the rose-coloured markings are replaced by much more slender bright carmine markings, and the white patch differs as above. Expanse of wings 4 inches 9 lines.

Bhotan (*Lidderdale*).

**Epicopeia maculata.** (Plate LXXXVIII. fig. 7.)

♂. Allied to *E. philenora*, but the secondaries above with a bifid creamy-white patch speckled with red on the nervures, crossed by the third median branch; no carmine spot above the abdominal excision, otherwise quite similar: secondaries below with the white patch as above, and with a bifid carmine spot divided by the first subcostal branch, and placed between the ordinary subcostal carmine spot and the white patch. Other characters like *E. philenora*, excepting that the outer margin of primaries is less convex, and the concavity between the apex and the caudal angle is deeper and shorter. Expanse of wings 4 inches 9 lines.

Bhotan (*Lidderdale*).

In its characters this species is intermediate between the preceding and *E. philenora*; it, however, seems to be decidedly more nearly allied to the latter species.

**Epicopeia caudata.** (Plate LXXXVIII. fig. 8.)

Darker than any known species: primaries dull black, with velvety-black basicostal area, veins, internervular folds, and outer margin: secondaries unusually elongated, the concavity between the apex and the caudal extremity almost obsolete, the extremity itself narrower, and therefore more caudiform than usual; three elongated white spots, of which the central one is considerably the longest, divided by the second and third median branches; a small carmine dash above the abdominal excision, and two small submarginal spots on the median interspaces: body, as usual, black, with carmine head, collar, and anus; abdomen shot with dark green. Primaries below grey, with the velvety-black markings as above; a large costal carmine patch at basal third of costa: secondaries black, shot with dark green; the markings of the upper surface somewhat expanded, the white spots confluent and forming a large patch,

which is continued by a spot just beyond the radial vein, the veins across it rose-red; a more or less prominent carmine streak, interrupted by the first subcostal branch and two or three small spots of the same colour on the caudal projection: body below, as usual, black, varied with carmine and rose-colour. Expanse of wings 4 inches 7 lines.

Bhotan (*Lidderdale*).

## PENORA, *Walk.*

### Penora venosa. (Plate LXXXIX. fig. 1.)

Penora venosa, *Walker*, *Cat. Lep. Het.* iv. p. 822. n. 4 (1855).

White: wings semitransparent, with pearly reflections, veins blackish: head, palpi, and prothorax yellowish*; abdomen with a longitudinal black dorsal line; antennæ black, with pale testaceous pectinations. Below nearly as above, but the wings more pearly, the veins brownish, the margins also brownish: body white, but evidently stained yellowish in the type. Expanse of wings 2 inches 2 lines.

North India.

The specimens placed with this species, and enumerated in the 'Catalogue' as examples *b* to *g*, are referable to Cramer's *P. festiva*.

## REDOA, *Walk.*

### Redoa cymbicornis. (Plate LXXXIX. fig. 2.)

♂. Snow-white, wings shining and semitransparent, veins cream-coloured: antennæ boat-shaped, with very long pale testaceous pectinations; palpi with the extremities pale testaceous; femora with a faint pink tint; the tibiæ and tarsi of the anterior and middle pairs of legs speckled with black externally. Expanse of wings 1 inch 11 lines.

Darjiling (*Lidderdale*).

### Redoa submarginata. (Plate LXXXIX. fig. 3.)

Redoa submarginata, *Walker*, *Cat. Lep. Het.* iv. p. 826. n. 1 (1855).

Silvery white: primaries with ill-defined transverse sericeous streaks; costal border towards apex and external border brownish; a small blackish spot at the end of the cell: secondaries with slightly brownish outer border: pectinations of antennæ testaceous; a dark brown V-shaped marking across the face; palpi brown in front. Under surface sericeous white: primaries with pale yellowish costal border. Expanse of wings 1 inch 7 lines.

Silhet (*Stainsforth*); Moulmein (*Clerck*).

* Mentioned in Walker's description, but possibly due to staining.

## GAZALINA, *Walk.*

### Gazalina antica. (Plate LXXXIX. fig. 4.)

Dasychira antica, *Walker*, *Cat. Lep. Het.* iv. p. 867. n. 10 (1855).

Wings above silvery white; primaries with the basal half of costal margin, two dots at the base, the veins, and two nearly parallel oblique lines across the basal half black: head white, with the face black; antennæ black, with testaceous pectinations; thorax white, the collar and metathorax ochraceous here and there; abdomen white, with transverse blackish bands. Under surface white, the costal margin of primaries black, costal area slightly yellowish; veins upon the disk blackish; secondaries with a transverse squamose blackish streak across the costal area; the upper surface of the anterior legs and the tarsi of the remaining legs blackish. Expanse of wings 1 inch 7 lines.

Almora (*Boys*); Darjiling (*Lidderdale*).

*Oligoclona chordigera* of Felder seems to be a slight variety of *G. antica.*

### Gazalina venosata. (Plate LXXXIX. fig. 5.)

Gazalina venosata, *Walker*, *Cat. Lep. Het. Suppl.* ii. p. 398 (1865).
Oligoclona nervosa, *Felder*, *Reise der Nov.*, *Lep.* iv. pl. xcv. fig. 8 (1874).

♀. Wings above silvery white, with the veins black; primaries with the costal margin black, base sprinkled with blackish scales: thorax sordid white; abdomen black, with white margins to the segments, a large metallic golden anal tuft; tarsi blackish: wings and body as above. Expanse of wings 1 inch 10 lines.

Barrackpore (*Hearsay*); Darjiling (*Lidderdale*).

Felder's figure represents a female which has laid its eggs, and is consequently denuded of the beautiful golden anal tuft: a similar example from Dr. Lidderdale's collection is in the Museum.

## HIMALA, *Moore.*

### Himala argentea. (Plate LXXXIX. fig. 6.)

♂. Redoa argentea, *Walker*, *Cat. Lep. Het.* iv. p. 827. n. 3 (1855).
♀. Dasychira ilita, *Moore*, *Cat. Lep. E.I. Comp.* ii. p. 341. n. 810 (1858–59).

Wings above silvery white, with blackish outer margins; primaries with all the veins, excepting the costal and subcostal, black; the last two subcostal branches also black: secondaries with the veins beyond the middle black: body snow-white*; antennæ with testaceous

* Walker describes it as "testaceous, clothed with white hairs," the body of the type being stained with grease.

pectinations. Wings below as above, excepting that the basal half of the costal border of primaries is blackish: body white. Expanse of wings 1 inch 7 lines.

♂, Assam (*Warwick*); ♀, Darjiling.

## LÆLIA, *Steph.*

### **Lælia circumdata.** (Plate LXXXIX. fig. 7.)

Genusa circumdata, *Walker, Cat. Lep. Het.* iv. p. 819. n. 3 (1855).

Wings above white: primaries slightly yellowish, the costal and external borders and the second median interspace grey: secondaries with the outer border, excepting at anal angle, broadly blackish, its inner margin sinuated: head and collar bright ochreous; thorax and base of abdomen white, remainder of abdomen orange; antennæ brown, with black pectinations. Wings below, with the costa, external border to the first median branch, second median interspace, and borders of median vein blackish: secondaries with two large blackish diffused patches on the external area: palpi and anus orange; anterior legs pale ochreous, remaining legs cream-coloured; pectus white; venter pale ochreous. Expanse of wings 1 inch 8 lines.

North India; Darjiling (*Sadler*).

This species flies in the month of June.

### **Lælia delineata.** (Plate LXXXIX. fig. 8.)

Genusa delineata, *Walker, Cat. Lep. Het.* iv. p. 818. n. 2 (1855).

Only differs from the preceding above in its slightly whiter primaries, with less defined grey borders, and in the wider and paler blackish border of the secondaries. Below, the blackish areas on the primaries are slightly darker, and the yellow coloration of the body is rather less orange in tint. Expanse of wings 1 inch 10 lines.

Silhet.

Probably a local modification of the preceding species.

## EUPROCTIS, *Hübn.**

### **Euproctis lunata.** (Plate LXXXIX. fig. 9.)

Euproctis lunata, *Walker, Cat. Lep. Het.* iv. p. 837. n. 11 (1855).

♂. Ochreous: primaries with a lunate black spot at the end of the cell; costal area of secondaries and centre of thorax slightly whitish: under surface creamy sulphur-yellow; the

* This genus has been confounded with *Porthesia*; the two British species, which differ considerably in neuration and in the clothing of the wings, being erroneously referred to the same genus.

costa of primaries and the front of the anterior tibiæ tinted with orange. Expanse of wings 1 inch 3 lines.

♀. Cream-coloured, with the abdomen ochraceous; the black lunate marking on the primaries larger. Expanse of wings 1 inch 7 lines.

North India.

**Euproctis lutescens.** (Plate LXXXIX. fig. 10.)

Euproctis lutescens, *Walker*, *Cat. Lep. Het.* iv. p. 837. n. 13 (1855).

♂. Cream-coloured: primaries with a small black spot at the end of the cell; secondaries slightly paler; caudal tuft ochreous; antennæ with pale testaceous pectinations: under surface white; primaries with the costal and external borders tinted with cream-colour. Expanse of wings 1 inch 7 lines.

North India.

**Euproctis latifascia.** (Plate LXXXIX. fig. 11.)

Leucoma latifascia, *Walker*, *Cat. Lep. Het.* iv. p. 831. n. 4 (1855).

♀. Snow-white: wings shining, semitransparent; antennæ with testaceous pectinations; abdomen brown, whitish at the base, with ochreous anal tuft; legs very hairy; venter yellowish. Expanse of wings 2 inches.

Nepal (*Hardwicke*).

## PORTHESIA, *Steph.*

**Porthesia marginalis.** (Plate LXXXIX. fig. 12.)

Euproctis marginalis, *Walker*, *Cat. Lep. Het.* vii. p. 1731 (1856).

♂. White; primaries slightly tinted with cream-colour; antennæ with dark-brown pectinations; anal tuft bright saffron-yellow; primaries below with brownish costal border. Expanse of wings 1 inch 2 lines.

North India.

## CHÆROTRICHE, *Felder.*

**Chærotriche plana.** (Plate LXXXIX. fig. 13.)

Euproctis plana, *Walker*, *Cat. Lep. Het.* vii. p. 1731 (1856).

Primaries above bright saffron-yellow, with the interno-median and discal areas sprinkled with black dots; a small black spot at the end of the cell; a squamose ferruginous streak

from the median vein just before the emission of its first branch to inner margin, where it curves outwards and unites with a similarly coloured, sinuated, oblique discal stripe, which runs to the subcostal vein : secondaries pale ochraceous : head and collar bright ochreous ; pectinations of antennæ, thorax, and abdomen testaceous ; anal tuft pale ochreous. Under surface pale creamy buff ; secondaries with a black dot at the end of the cell. Expanse of wings 1 inch 10 lines.

North India ; Darjiling (*Lidderdale*).

**Chærotriche immaculata.** (Plate LXXXIX. fig. 14.)

♀. Primaries above bright ochreous, with a few ferruginous scales forming an oblique indistinct streak across the lower half of the disk : secondaries pale creamy yellowish : body ochreous, becoming almost testaceous towards the extremity of the abdomen ; antennæ whitish, with testaceous pectinations. Under surface shining cream-coloured, venter with the sides and anus ochraceous. Expanse of wings 2 inches 3 lines.

Darjiling (*Lidderdale*).

## PIDA, *Walk.*

**Pida apicalis.** (Plate LXXXIX. fig. 15.)

Pida apicalis, *Walker, Cat. Lep. Het. Suppl.* ii. p. 400 (1865).

Primaries testaceous, with the apical area broadly pale chrome-yellow, limited internally by a broad, somewhat diffused, dark-brown oblique belt traversed by whitish veins ; two central widely separated irregular white stripes, the outer one abbreviated : secondaries pale chrome-yellow ; the abdominal area clothed with testaceous hair : head and thorax testaceous, palpi orange : abdomen chocolate-brown, greyish towards the base ; anal tuft bright ochreous. Under surface pale creamy buff ; venter blackish in the centre ; anal segment and tuft orange ; base of abdomen white ; pectus whitish ; anterior legs orange in front. Expanse of wings 2 inches 5 lines.

Darjiling.

## ARTAXA, *Walk.*

**Artaxa scintillans.** (Plate XC. fig. 1.)

Somena scintillans, *Walker, Cat. Lep. Het.* vii. p. 1734 (1856).

Primaries above red-brown, with a feeble lilacine reflection, speckled with black dots ; the costal and external borders sulphur-yellow, the costal border not extending to the base, the external border undulated and dotted with silver spangles along its inner edge : secondaries

pale sericeous yellow: head and collar orange; antennæ with testaceous pectinations; thorax brown; abdomen testaceous. Under surface pale sericeous yellow: primaries with a brown subcostal streak. Expanse of wings 1 inch.

North India (*Reid*).

**Artaxa atomaria.** (Plate XC. fig. 2.)

Artaxa atomaria, *Walker, Cat. Lep. Het.* iv. p. 796. n. 3 (1855).

Primaries above red-brown, speckled with black dots; costal border ochraceous, diffused; apex broadly ochreous, with two unequal submarginal black spots; external border from the second median branch to the angle ochreous: secondaries of a darker brown than the primaries, fringe ochreous: head and two spots at the hind margin of the collar pale yellow; thorax clay-coloured; abdomen fuliginous brown. Wings below fuliginous brown, with ochreous borders: body below pale creamy buff. Expanse of wings 1 inch 5 lines.

North India; Moulmein (*Clerck*).

**Artaxa limbata.** (Plate XC. fig. 3.)

Primaries above fuliginous brown, speckled with black dots; an apical spot, a rounded subapical external spot, and the external border from the second median branch to the angle lemon-yellow: secondaries greyish brown, with a regular cream-coloured external border: head and collar cream-coloured; remainder of the body blackish, anal tuft ochreous. Primaries below greyish brown, with pale sericeous grey internal border; external border cream-coloured, with sulphur-yellow fringe: secondaries with the basal half, excepting the costa, greyish brown; costal margin and external half cream-coloured: body below dark grey; palpi and legs cream-coloured; anal tuft ochreous. Expanse of wings 1 inch 6 lines.

Darjiling (*Lidderdale*).

## CISPIA, *Walk.*

**Cispia punctifascia.** ((Plate XC. fig. 4.)

Cispia punctifascia, *Walker, Cat. Lep. Het.* iv. p. 857. n. 1 (1855).

♂. Primaries above pale reddish clay-coloured, veins whitish; an angulated oblique central ochreous belt, bounded on each side by series of black spots: secondaries ochreous: body testaceous; head and collar ochreous; antennæ and palpi dark brown. Under surface ochreous; wings with an indistinct curved series of clay-coloured spots just beyond the middle. Expanse of wings 2 inches.

Silhet (*Stainsforth*); Darjiling (*Lidderdale*).

## AROA, *Walk.*

**Aroa substrigosa.** (Plate XC. fig. 5.)

Aroa substrigosa, *Walker, Cat. Lep. Het.* iv. p. 794. n. 8 (1855).

Bright fulvous: primaries with the external area, a subcostal streak, and a median streak slightly greyish; secondaries a little paler than the primaries: body corresponding with the wings in tint; antennæ with blackish pectinations. Body below whitish. Expanse of wings 1 inch 4 lines.

Silhet.

## PSEUDOMESA, *Walk.*

**Pseudomesa quadriplagiata.** (Plate XC. fig. 6.)

Pseudomesa quadriplagiata, *Walker, Cat. Lep. Het.* iv. p. 923. n. 1 (1855).

Fuliginous brown; primaries crossed obliquely beyond the middle by a semihyaline white band; secondaries with the end of the cell and the greater part of the discoidal interspace occupied by a cream-coloured patch; anal tuft buff. Under surface altogether paler than above: body below whitish; legs slightly yellowish. Expanse of wings 1 inch 11 lines.

Silhet.

## NAGUNDA, *Moore.*

**Nagunda semicincta.** (Plate XC. fig. 7.)

Alope semicincta, *Walker, Cat. Lep. Het.* iii. p. 620. n. 2 (1855).

Primaries dark brown; a spot at base of inner margin, a spot at end of cell, a dot just beyond the cell, an abbreviated interrupted costal transverse stripe towards the apex, and a corresponding stripe near the external angle, pale buff; fringe ochreous, interrupted by blackish spots between the veins: secondaries bright rose-coloured, with the costal and external borders dark grey-brown; fringe ochreous, interrupted by blackish spots: thorax cream-coloured, black in the centre; a black spot at the back of the head and one on each tegula; antennæ black; abdomen deep rose-colour, with a dorsal series of blackish dots. Primaries below dark brown, with an elongated ochreous costal spot beyond the middle; fringe as above: secondaries as above; pectus carmine; legs black; venter black, with the sides, anus, and the hind margins of the segments carmine. Expanse of wings 2 inches 4 lines.

North India; Darjiling (*Lidderdale*).

## LYMANTRIA, *Hübn.*

### **Lymantria concolor.** (Plate XC. figs. 8 & 9.)

♀. Lymantria concolor, *Walker, Cat. Lep. Het.* iv. p. 876. n. 9 (1855).

♂. Primaries pale sulphur-yellow, crossed by irregular dentate-sinuate black lines and by black subbasal spots, also with a series of large black costal spots, and with the fringe interrupted by black dashes, almost exactly as in the European *L. monacha*: secondaries grey, slightly brownish towards the base and abdominal margin; costal area crossed by white patches; two curved parallel discal series of white spots; a marginal series; fringe dusky, interrupted by large snow-white spots: thorax pale sulphur-yellow, spotted with black; antennæ dark brown; abdomen rose-red, with whitish anal tuft. Primaries below with the basal two thirds partly greyish brown, obscuring to a certain extent the dentate-sinuate lines, the latter are also all brown instead of black; costal border spotted with black as above: secondaries brown, the spots of the upper surface sharply defined, cream-coloured; base cream-coloured, crossed by an oblique brown stripe: pectus black; tibiæ fringed with cream-colour; tarsi cream-coloured, banded with black; venter cream-coloured, with the sides, anterior margins of the segments, and anal tuft blackish. Expanse of wings 2 inches 2 lines.

♀. Primaries above cream-coloured, with all the markings much more slender than in the male, but similar in character: secondaries snow-white; two subapical costal dashes, an indistinct curved line on the discocellulars, and traces of a submarginal sinuated line grey: thorax cream-coloured; the palpi, a spot at the back of the head, the centre of the collar, a dorsal longitudinal stripe on the thorax, a spot on metathorax, and a spot on each tegula black: abdomen ochreous, white at the base; the last three or four segments with central brown and lateral black spots. Wings below white, with cream-coloured costal borders: primaries with all the markings upon the basal two thirds ill defined, only seen through the texture of the wing, excepting upon the costal border, where they are black: secondaries with the subapical and discocellular markings well defined and brown: body below cream-coloured; legs black, the tibiæ fringed and banded with white; venter ochreous, spotted with black at the sides. Expanse of wings 3 inches 5 lines.

Darjiling.

### **Lymantria superans.** (Plate XC. figs. 10 & 11.)

♀. Lymantria superans, *Walker, Cat. Lep. Het.* iv. p. 876. n. 10 (1855).

♂. Similar to the male of the preceding species, but the primaries with the ground-colour pure white instead of sulphur-yellow; the secondaries with the white spots, excepting on the fringe, extremely ill-defined: thorax cream-coloured, spotted with black; abdomen rose-red, with a dorsal series of dusky spots. Primaries below much less obscured by brown, excepting upon the costal border, which is brown to the end of the cell: secondaries white, the abdominal border sordid; an irregular curved dentate-sinuate band from the costa to the median vein; a curved dentate-sinuate stripe beyond the cell, the costal border beyond the

middle, a diffused submarginal band, and a series of spots on the fringe blackish: body below white; coxæ and femora black, tibiæ and tarsi banded with black; venter with a series of black spots on each side. Expanse of wings 2 inches 1 line.

♀. White; the wings marked as in the preceding species, but the lines more sharply defined; thorax white, spotted as in the male; abdomen white: under surface white, the markings less defined than above. Expanse of wings 2 inches 7 lines.

Darjiling.

**Lymantria marginata.** (Plate XC. fig. 12.)

Lymantria marginata, *Walker*, *Cat. Lep. Het.* iv. p. 877. n. 11 (1855).

Creamy white: the primaries traversed by brown dentate-sinuate bands of the same character as in *L. monacha*, but considerably broader; no subbasal spots: secondaries with a broad brown border: back of collar and antennæ blackish; abdomen ochreous, with large blackish dorsal spots; basal third of costa and part of the central band and external border filled in with brown: secondaries with the commencement of a double brown band from the costa beyond the middle to the median vein; a broad brown external border, upon which are two or three small white spots. Body below ochraceous; legs black, banded with white; venter with lateral series of black spots. Expanse of wings 2 inches 8 lines.

Silhet.

**Lymantria cara.** (Plate XC. fig. 13.)

♀. Primaries above snow-white, the costal area crossed by five abbreviated oblique angulated bands, the first basal, the third almost joining a blackish *v*-shaped marking at the end of the cell, the fourth joining a deeply-dentated discal line which joins the central furca, of a very irregular trifurcate character, on the internal border; traces of a submarginal undulated line, best defined on second median interspace, where it takes the form of a large lunated black spot; a marginal series of black spots: secondaries sordid white, with a submarginal series of almost confluent pale brown lunated spots; a marginal series of dark-brown spots: thorax white, spotted with black; sides of head yellow, front of collar orange; abdomen white at base, otherwise pink, with carmine margins to the segments and lateral tufts; anal segment sparsely clothed at the extremity with yellow hairs. Wings below white, with sordid borders; primaries with black costal and marginal spots; a pale sandy brown submarginal stripe and traces of a discal one: secondaries with the upper part of the discocellulars dark brown; a pale brown arched sinuated discal stripe, and a similar but longer submarginal one; a marginal series of darker brown spots: body below dark brown; pectus with rose-coloured lateral tufts; tibiæ of middle pair of legs white, banded with black, with broad external fringe similarly coloured; venter with abbreviated rose-red bands widening as they approach the anal segment, which is bright yellow in the centre; a marginal series of carmine tufts. Expanse of wings 3 inches 2 lines.

♀, Bhotan (*Lidderdale*). ♂ (?), Borneo.

**Lymantria grandis.** (Plate XCI. figs. 1 & 2.)

♀. Lymantria grandis, *Walker*, *Cat. Lep. Het.* iv. p. 874. n. 6 (1855).
♂. Lymantria maculosa, *Walker*, *l. c.* p. 881. n. 18 (1855).

♂. Primaries white, with the veins and borders slightly tinted with pink; the basal sixth of costal margin carmine; three series of spots across the basal area, three slightly curved series of more or less lunate spots beyond the middle, an interrupted submarginal series, and a marginal series of small spots, all dark brown: secondaries rosc-pink, brighter on abdominal border, with a grey spot at the end of the cell and a grey submarginal stripe: thorax white, yellowish in front, spotted with black; the palpi, margins of head, and a patch enclosing a black spot in the middle of the prothorax carmine; abdomen rose-pink, with blackish dorsal spots; anus white. Under surface pink: wings with costal borders and veins rose-red, the costa of primaries carmine: legs banded above with black, fringed with white hair below; venter with two lateral series of black spots; anus tufted with white. Expanse of wings 2 inches 3 lines.

♀. Primaries above white, with thc edges of the veins and the borders slightly tinted with pink; base tufted with carmine and crossed by two black stripes; other markings nearly as in the preceding species: secondaries rose-coloured, with a submarginal series of subconfluent lunated spots and a marginal series of small spots grey: thorax white, cream-coloured in front: head in front black, with red margins, behind rose-coloured; antennæ with a red basal tuft, otherwise black; collar with two central black spots; prothorax with a black spot in the centre of a red patch; two more black spots at the sides; a black spot on each tegula: abdomen rose-red, with the anal segments white. Wings below white, washed with pink; the veins rose-coloured: primaries with the base, costal margin, and fringe bright red; the markings of the uppcr surface indistinct, those on the costal border obsolete: secondaries with the abdominal area bright rose-pink; the veins and fringe also rose-pink, the latter interrupted as in the primaries by blackish marginal spots; a blackish lunated submarginal stripe and a spot of the same colour on the discocellulars: pectus rose-red, the legs banded with blackish; venter sordid white, with two series of large black spots; basal segments tinted with rose-colour. Expanse of wings 4 inches 4 lines.

Darjiling (*Lidderdale*); Ceylon (*Wenham*).

The locality mentioned by Walker for *L. maculosa* is incorrect.

## PEGELLA, *Moore.*

**Pegella lineata.** (Plate XCI. fig. 3.)

♂. Lymantria lineata, *Walker*, *Cat. Lep. Het.* iv. p. 875. n. 7 (1855).

White: primaries crossed at basal fourth by an irregular angulated black line; two indistinct parallel dentate-sinuate brown discal lines; an incomplete marginal series of black

dots: secondaries with two or three black marginal dots towards the apex. Wings below with the costal borders and veins cream-coloured; a blackish spot on the discocellulars: body below sordid; tarsi blackish. Expanse of wings 3 inches 4 lines.

Silhet.

## MARDARA, *Walk.*

### Mardara complicata. (Plate XCI. figs. 4 & 5.)

♂. Dasychira complicata, *Walker, Cat. Lep. Het. Suppl.* ii. p. 362 (1865).
Trisula pustulifera, *Walker, l. c.* p. 576 (1865).

♂. Primaries above sandy brown, darker towards the base; an irregular white-bordered black line across the basal area; the base itself greyish white; a white-edged undulated blackish line across the wing just before the middle; a large blackish costal patch at the end of the cell; a rather broad discal belt composed of blackish oval spots and in the middle by crescent-shaped brown spots, bordered with white and enclosed between two black lines; a submarginal series of black dashes and a series of black spots on the fringe: secondaries pale ochraceous, darker on the abdominal area; a dusky spot at the end of the cell, a second indistinct one on the discoidal interspaces near the outer margin, and a blackish oblique dash near the anal angle: head and collar sordid white, antennæ dull ferruginous; thorax greyish white, with a dusky spot on each tegula; abdomen ochreous, with blackish dorsal and lateral series of spots; anal tuft blackish, with white borders. Under surface cream-coloured, large black spots closing each cell: primaries with black spots on the fringe; an incomplete series of black spots parallel to the outer margin: palpi black, anterior coxæ blackish; tibiæ and tarsi ochreous, banded with black and fringed with white. Expanse of wings 2 inches 4 lines.

♀. Considerably larger than the male, the dark markings less defined than in the male; the secondaries with the blackish spots on the disk forming an interrupted series; the fringe spotted with black; body with lateral white tufts. Expanse of wings 3 inches 5 lines.

Barrackpore (*Hearsay*); Darjiling (*Lidderdale*).

## DASYCHIRA, *Steph.*

### Dasychira maruta. (Plate XCI. fig. 6.)

Dasychira maruta, *Moore, Cat. Lep. Mus. E.I. Comp.* ii. p. 339. n. 803 (1858–59).

♀. Grey: primaries densely irrorated with blackish scales, with three transverse irregular blackish lines, the first subbasal, the second at basal third, bifid in front, the third beyond the middle, recurved and undulated; a fourth submarginal zigzag line; a series of black spots on the fringe, which is otherwise whitish; a dusky streak at the end of the cell: secondaries paler, with a dusky streak at the end of the cell and two dusky discal stripes, the inner one of which is very indistinct; a marginal series of almost confluent blackish spots:

body as dark as the primaries. Under surface altogether paler, greyish white, shading into pale grey, with two dusky discal macular stripes : primaries with a dusky patch at the end of the cell and a marginal series of triangular black spots : secondaries with a blackish spot at the end of the cell and a slender black marginal line. Expanse of wings 2 inches 9 lines.

Darjiling.

**Dasychira niveosparsa.** (Plate XCI. fig. 7.)

♀. Near to *D. strigata*: primaries above grey, irrorated with white; base white, speckled with brown and limited externally by an irregular angulated dark brown line; two bands, one before and the other beyond the middle, margined on both sides and intersected by dark brown sinuated lines; the inner band irregular and transverse, the outer one oblique and incurved towards the costa; a bifid blackish line at the end of the cell; an ill-defined interrupted white-bordered zigzag line across the disk; an irregular submarginal series of white-edged black lituræ: secondaries ochraceous, with greyish costal area; external border broadly whitish and limited internally by a diffused blackish discal stripe; a brownish marginal line: thorax grey; abdomen greyish white, tinted here and there with ochraceous. Under surface greyish; the wings with two ill-defined macular dusky discal stripes and dusky discocellulars : secondaries with the abdominal area tinted with ochraceous : body below whitish. Expanse of wings 2 inches 8 lines.

Darjiling (*Lidderdale*).

## SATURNIIDÆ.

### ANTHERÆA, *Hübn.*

**Antheræa frithii.** (Plate XCI. fig. 8.)

Antheræa frithii, *Moore, Cat. Lep. Mus. E.I. Comp.* ii. p. 396 (1858); *Proc. Zool. Soc.* 1859, p. 256. n. 3, pl. lxv. fig. 1.

Chrome-yellow; the wings washed with ferruginous; the external borders greyish ferruginous: primaries with the costal two thirds grey; an evenly-sinuated submarginal laky-brown stripe limiting the external border; two dull grey sinuated parallel discal stripes, the inner one darkest, broadest, and interrupted by the ocelli; the ocelli are of equal size, greyish brown, with hyaline white pupil, limited internally by a rose-red lunate marking enclosing a white line, and externally edged on both sides with yellow, the whole enclosed in a black annulus: primaries with a whitish-bordered greyish-brown stripe from the base of the abbreviated cell to the inner margin; base of the cell occupied by a yellow spot bordered with brown; subapical costal area bright chrome-yellow: secondaries with a sinuated greyish stripe across the basal third: body pale, with testaceous head and antennæ and grey collar.

Under surface pale buff, with the bands and stripes arranged nearly as above; the submarginal stripe much more deeply sinuated, alternating from dark to light, the sinuations being blackish and the undulations greyish white; ocelli smaller than above: legs with the tibiæ and tarsi rosy. Expanse of wings 5 inches 7 lines.

Darjiling (*Indian Museum and Lidderdale*).

## ATTACUS, *Linn.*

### Attacus edwardsii. (Plates XCII. & XCIII.)

♂. Attacus edwardsii, *White, Proc. Zool. Soc.* 1859, p. 115, pl. lvii.

♂ ♀. Wings above deep laky brown, clouded with black; each wing crossed near the base by a white belt, that of the primaries angulated and bidentated, that of the secondaries oblique and slightly concave; a large triangular yellow-bordered hyaline white patch in the centre of each wing, followed by an irregularly-sinuated olive-bordered white belt; disk irrorated with white scales; apical area of primaries broadly ferruginous, clouded with grey, with two black spots united by an irregularly deeply sinuated white line, the upper spot upon the costa; an orange submarginal curved belt, enclosing the falcated apical area externally, and continued below the radials in the form of double crescents or 3-shaped spots of a dull yellow colour margined with black; outer border grey: secondaries with the submarginal area blackish, traversed by a continuous series of yellow-bordered reniform patches; outer border greyish brown, traversed by two black stripes: body above purplish brown; head and antennæ rusty orange; a white patch at the base of each antenna; back of the thorax snow-white; abdomen with two dorsal lines, a series of lateral tufts, and the anus white. Under surface nearly as above; wings with no subbasal belt; secondaries with cream-coloured costa. Expanse of wings, ♂ 9 inches 6 lines, ♀ 10 inches.

Darjiling.

## PHILOSAMIA, *Grote.*

### Philosamia lunula. (Plate XCIV. fig. 1.)

Attacus lunula, *Walker, Cat. Lep. Het.* v. p. 1221. n. 18 (1855).

Dusky brown, with the basal two thirds of the wings slightly reddish and bounded externally on each wing by a white angulated belt, united to a paler pinky-whitish or flesh-tinted belt; the subbasal belt white and similarly formed to that of *Attacus*; the ocelli as usual represented by yellow and white maggot-like markings, edged with black, that of the primaries lying against the postmedian belt just below the angulation, that of the secondaries arched and only touching the belt at its outer extremity; apical area pinky whitish, shading into ochraceous internally, and bounded externally by an abbreviated gravel-yellow band, margined internally by a zigzag white line, and interrupted by an oval blackish spot enclosing

a white crescent; external border grey, traversed by two slender dark lines: secondaries with the external border greyish brown, traversed by two lines as in the primaries: body brown, the metathorax and abdomen banded with white. Wings below clearer and paler in colour than above; the subbasal belt absent; the external border only traversed by one dusky line: the secondaries with cream-coloured costal border. Expanse of wings 4 inches 4 lines.

Silhet.

## RINACA, *Walk.*

### Rinaca extensa. (Plate XCIV. fig. 2.)

♂. Near to *R. thibeta,* but considerably larger; the primaries more elongated and considerably more falcated in form; the ocelli larger, that of the secondaries circular; the two dark bands across the primaries darker, more regular, oblique, not incurved towards the costa; the grey area beyond the zigzag discal lines of only two thirds the width and less rosy in colour; the outer border darker; the subbasal band of the secondaries dark brown, strongly dentated below the middle; the discal lines wider apart, the inner one paler, the outer one dark brown; the discal belt considerably darker; the submarginal stripe olivaceous instead of gravel-yellow. Expanse of wings 5 inches 9 lines.

Darjiling (*Lidderdale*).

Mr. Moore possesses the female of this species, also from Darjiling; it differs from the female of *R. thibeta* in the same way as the male does.

## SATURNIA, *Schr.*

### Saturnia grotei. (Plate XCIV. figs. 3 & 4.)

♂. Saturnia grotei, *Moore, Cat. Lep. E.I. Comp.* ii. p. 404. n. 926 (1858); *Proc. Zool. Soc.* 1859, p. 265. n. 2, pl. lxv. fig. 2.

♂. Primaries above testaceous, densely irrorated with black, the basal and costal areas brown; a large black-bordered brown ocellus, edged with dull lake-red, and enclosing a large spot of the same colour and a white crescent, near the middle of the wing; three parallel discal zigzag lines, the innermost one brown, the two outer ones black, followed by an internally strongly dentated black band, which does not extend into the apical area; outer border pale brown, traversed by a submarginal series of elongated dark reddish-brown spots, fringe dark-brown; apical area bounded below by a cuneiform ferruginous patch, speckled internally with white scales; a subapical costal black spot, speckled with white: secondaries rose-coloured, with the basal and abdominal areas fuliginous brown; a curved stripe of the same colour just before the middle; a central ocellus, slightly paler and much smaller than that of the primaries; subanal area testaceous; two zigzag black discal lines, the outer one forming the internal limit of a black-edged testaceous band; outer border pale brown, streaked with pink at apex

and anal angle, and traversed by a submarginal series of elongated spots, and with dark brown fringe, as in the primaries; body fuliginous brown, the collar crossed by an ochreous stripe. Wings below altogether yellower than above, pale ochreous, the innermost discal zigzag line dull pink, continued through the secondaries, the two outer zigzag lines forming the boundaries of a dull pink stripe; the ocelli and the subapical cuneiform patch of the primaries of a more rosy tint: the secondaries mottled with dark brown, and tinted with dull pink towards the base; the testaceous discal band limited externally by elongated black spots: body below testaceous, tinted with dull pink at the sides; anterior coxæ dull rose-colourcd. Expanse of wings 3 inches.

♀. Much larger than the male; the primaries densely irrorated with brown and black up to the pale border, and with larger ocellus; the external margin nearly straight: secondaries deeper in colour, the ocellus much more laky in tint, larger; the discal band broader, and externally more broadly black bordered. The wings below very little paler than above, densely irrorated up to the pale border with dark brown, with scarcely a trace of the innermost zigzag line, the two other lines less distinct than above: secondaries very slightly tinted with pink. Expanse of wings 3 inches 9 lines.

♂, Darjiling (*from the India Museum*); ♀, Darjiling (*Lidderdale*).

## LASIOCAMPIDÆ.

### BRAHMÆA, *Walk.*

**Brahmæa whitei.** (Plate XCV. figs. 1 & 2.)

Brahmæa whitei, *Butler*, *Proc. Zool. Soc.* 1866, p. 119. fig. 2.

Whity brown: primarics with the basal third traversed by eight black lines; a central irregular black-bordered belt, slightly yellowish internally and olivaceous externally, crossed by white streaks, upon which are numerous white-pupilled black spots; the outer border of this belt is deeply and broadly concave in front of the apical area, and between the lower radial and first median branch, the anglc between these two excavations being bifid; apical area pale olivaceous brown, crossed by six more or less dentate-sinuate lines, all, excepting thc innermost one (which is black, edged with white), snow-white, separated from the remainder of the disk, which is traversed by nine irregular pale-edged black lines, by a yellow longitudinal streak; a submarginal series of semicircular shell-like ocelli, the three uppermost of which are confluent and almost concealed by a large black patch; outer border whitish internally, slightly brownish externally: secondaries with the basal two fifths blackish, streaked with pale brown, and limited by a sinuous recurved black stripe: disk traversed by nine irregular slender black lines; a submarginal scries of confluent shell-like spots, from which black streaks project inwards upon the veins: thorax varied with irregular longitudinal black streaks:

abdomen crossed by narrow interrupted black lines. Wings below pale yellowish brown: primaries with a longitudinal subcostal basal blackish streak; a very broad area, representing the central belt of the upper surface, broadly bordered with black, its upper portion mottled with black, its lower half crossed by a longitudinal black belt; nine pale-edged slender blackish lines from costa to inner margin, followed by a black regularly zigzag submarginal line; external border slightly olivaceous: secondaries with the basal half streaked with black and limited by a recurved black undulated belt; remainder of the wing as in the primaries: pectus black, sides and coxæ brown; venter sandy brown, with straight central and undulated lateral slender black lines. Expanse of wings 5 inches 9 lines.

Darjiling (*Lidderdale*).

**Brahmæa conchifera.** (Plate XCV. figs. 3 & 4.)

Brahmæa conchifera, *Butler*, *Ann. & Mag. Nat. Hist.* ser. 5, vol. v. p. 188 (1880).

Brahmæa certhia, *Walker* (*nec Fabr.*), *Cat. Lep. Het.* vi. p. 1316 (1855); *Butler*, *Proc. Zool. Soc.* 1866, p. 119, fig. 1.

Altogether darker and of a yellower tint than the preceding, the central belt with its upper half convex instead of concave externally, the white lines on the subapical area replaced by sagittate white markings in three regular longitudinal series; all the black lines wider: secondaries with the basal area nearly as wide again, black, excepting towards the costa, which is purplish brown, only streaked with ochraceous brown towards the abdominal margin, its outer edge less sharply angulated; the disk crossed by slate-coloured streaks intersected by white lines; the submarginal shell-like ocelli more depressed, and consequently more evidently confluent; as in the primaries, they and the outer border are more olivaceous in tint: the body above is black, the thorax longitudinally streaked with ochraceous, the abdomen banded with the same colour and with a dorsal median stripe of it. Below, the representative of the central belt on the primaries is much more suffused with black; the basal area of secondaries is black, only streaked with buff towards the costal margin, the discal lines are much less strongly undulated, and the submarginal line is not zigzag; the pectus is wholly black, and the venter ochreous with black longitudinal lines. Expanse of wings 6 inches 2 lines.

Silhet; Darjiling (*Lidderdale*).

**Brahmæa wallichii.** (Plate XCV. figs. 5 & 6.)

Bombyx wallichii, *J. E. Gray*, *Zool. Misc.* p. 39 (1832); *G. R. Gray*, *Lep. Ins. Nepal*, pls. 15 & 16 (1833).

Bombyx spectabilis, *Hope*, *Trans. Linn. Soc.* xviii. p. 443, pl. 31. fig. 3 (1841).

Differs from the preceding in its altogether redder colour, the much greater width of the central belt of the primaries, the almost entire absence of all white markings, the lines on the subapical area being extremely slender, lunate, and indistinct, the greater width of the basal

area of secondaries, in which the abdominal ochraceous brown streaks are almost obsolete, and the greater width of the discal area. Below, the basal two thirds, with the exception of the costal border (which is streaked with ochreous), wholly black, the black discal lines wider apart and barely separated from the external border; the outline of the black area of secondaries broadly arched, and the band immediately beyond it barely paler in colour than the rest of the disk. Expanse of wings 6 inches.

Nepal (*Hardwicke*).

There are two examples of this species, fully bearing out its specific distinctness from *B. conchifera*, in the collection of Mr. Herbert Druce.

### APHA, *Walk.*

**Apha floralis.** (Plate XCIV. figs. 5 & 6.)

♂. Basal fourth of primaries above blackish; a large subbasal stellate yellowish marking, with blackish centre; the whole central area of the wing, excepting the central belt, purplish brown; costal border crossed by short blackish dashes; central belt separated into three irregular unequal sandy yellowish patches, margined with ferruginous, the uppermost one enclosing a black spot; faint indications of two parallel postmedian oblique undulated dusky lines incurved towards the costa; an oblique sulphur-yellow stripe, margined internally with purple, from inner margin almost to apex, where it joins a yellow costal patch, which extends to the apex; area immediately beyond the yellow stripe olivaceous; two alternating submarginal series of dark brown spots; external border dark brown, changing to sandy yellow at the external angle: secondaries with the basal area and the costal area up to the central line ochraceous; subbasal area laky brown, limited by the central line, which is dark laky purple, angulated and undulated towards the costa; external half pale sordid yellow; a discal series of dark brown spots on the veins, followed by a series of grey lunules between the veins: head, collar, and inner borders of tegulæ blackish slate-colour; back of head and antennæ piceous; thorax dull yellowish; abdomen yellowish, with reddish borders and lemon-yellow anal tuft. Wings below with the basal area up to the oblique line of primaries and the central line of secondaries (which are dark purplish brown) burnt sienna-red, varied with brown and yellow; external area bright lemon-yellow, with two alternating discal series of dark ferruginous spots: primaries with the external border towards apex dark purplish brown: body below saffron-yellow; collar dark brown; tarsi blackish; venter reddish at the sides. Expanse of wings 2 inches 3 lines.

♀. Larger than the male, with nearly the same pattern, but all the dark areas and markings replaced by bright rose-red, and the yellow areas deeper in colour; abdomen orange. Wings below altogether brighter than in the male, the discal spots united and forming denticulated and castellated lines; nearly the whole external border of the primaries dark ferruginous. Expanse of wings 2 inches 11 lines.

Darjiling (*Lidderdale & Sadler*).

**Apha subdives.** (Plate XCIV. figs. 7 & 8.)

Apha subdives, *Walker, Cat. Lep. Het.* v. p. 1180. n. 1 (1855).

♂. Testaceous, with markings similar to those of *A. floralis* ♀, but slaty purple; the area between the undulated postmedian lines of primaries and the oblique blackish-edged yellow stripe grey; external border extended to the external angle: secondaries with the subbasal area limited by the median line greyish; a dull ferruginous patch near apex upon the external border: body greyish, considerably darker than in *A. floralis*. Wings below with the area between the postmedian dark line and the castellated discal line considerably narrower than in *A. floralis*, the discal line much thicker, the external area of primaries burnt-sienna red with purplish-brown external border: secondaries with the apical portion of external border ferruginous: body below considerably redder. Expanse of wings 2 inches 10 lines.

♀. Considerably larger than the male, the primaries paler and redder throughout. Expanse of wings 3 inches 5 lines.

Silhet.

## GANISA, *Walk.*

**Ganisa glaucescens.** (Plate XCVI. figs. 1 & 2.)

Tagora glaucescens, *Walker, Cat. Lep. Het.* v. p. 1188. n. 1 (1855).

Chocolate-brown, washed with shining silvery grey, excepting at the base of the wings, on the external border and discal band of the primaries, the fringe and discal band of secondaries, and the body: wings crossed by a narrow reddish ferruginous discal band, edged with dark brown, and running from near apex of primaries to abdominal margin of secondaries: primaries with broad external border, its inner edge zigzag; a large ochreous discoidal stigma placed between two widely separated undulated dusky stripes; indications of two very indistinct inarched stripes between the second one and the discal band: secondaries with the basal area crossed in the male by two very ill-defined dusky stripes; a faint dusky zigzag indication of an external border similar to that of the primaries: head of the male blackish; collar and abdomen rust-red; thorax red-brown; tegulæ sericeous: body of the female rather paler. Under surface reddish fulvous, glaucous, and crossed by four brown undulated stripes from the middle of the wings to the centre of the disk; a series of grey spots parallel to the outer margin: female rather paler than the male. Expanse of wings, ♂ 3 inches 6 lines, ♀ 3 inches 9 lines.

Darjiling (*Parry & Lidderdale*).

**Ganisa pallida.** (Plate XCVI. fig. 3.)

Considerably paler than *G. glaucescens*, pinky brown, with the area between the discal band of the wings and the external border glaucous grey; the border limited by a black-dotted zigzag dusky line; discal band paler, and with blacker margins than in *G. pallida*: primaries

crossed between the base and the discal band by six incurved undulated dusky lines; a white discoidal spot above, and beyond which is a greyish nebula, crossed by the second dusky line: head blackish; abdomen tinted with ferruginous. Under surface sericeous laky brown, the markings, especially the discal band, indistinct. Expanse of wings 3 inches 6 lines.

Bhotan (*Lidderdale*).

**Ganisa plana.** (Plate XCVI. figs. 4 & 5.)

Ganisa plana, *Walker*, *Cat. Lep. Het.* v. p. 1191. n. 2 (1855).

♂. Silvery grey, slightly tinted with brown: primaries with a black dot at the end of the cell; one or two brown lines across the base, but indistinct and diffused, excepting upon the costa; three nearly parallel, curved, undulated discal brown lines, the third running into two closely approximated black oblique lines which run from inner margin to apex; outer border reddish brown; a very indistinct multisinuate brown submarginal line: secondaries with three parallel central undulated brown lines; a less deeply sinuated darker brown line across the disk, followed by a series of black points; border as in primaries: body brown; antennæ testaceous, with ferruginous pectinations. Under surface grey: wings with black discoidal spots; external area towards the apex of each wing clouded with brown, five nearly parallel undulated, and more or less arched, brown lines beyond the cells; outer border reddish brown: anterior legs brown; tarsi of all the legs testaceous. Expanse of wings 2 inches 7 lines.

♀. Altogether browner than the male, the markings less strongly defined on both surfaces. Expanse of wings 2 inches 7 lines.

Silhet (*Stainsforth*); Darjiling (*Lidderdale*).

## EUPTEROTE, *Hübn.*

**Eupterote discordans.** (Plate XCVI. figs. 6 & 7.)

♂. Chrome-yellow; wings crossed beyond the middle by a slightly incurved regular dark grey stripe, followed immediately by a slender line of the same colour; a slender undulating line across the disk; primaries with two irregular blackish stripes across the basal area, and between them three irregular parallel grey lines; four parallel zigzag grey stripes between the middle of the wing and the regular double dark stripe; area between the latter and the discal line greyish towards the costa, and marked with a dark grey spot on the first median interspace: secondaries with a dark grey irregular subbasal stripe, between which and the dark postmedian stripe are four grey zigzag lines, the fourth being partly confounded with the stripe. Wings below nearly as above, but the lines across the basal area of primaries obsolete; antennæ ferruginous. Expanse of wings 3 inches 1 line.

♀. Laky brown, with dark-grey lines and stripes almost exactly as in the male. Expanse of wings 3 inches 5 lines.

Calcutta (*Lidderdale*).

**Eupterote mutans.** (Plate XCVI. fig. 8.)

Dreata mutans, *Walker*, *Cat. Lep. Het.* iv. p. 904. n. 3 (1855).

Clear stramineous: wings crossed near the middle by an indistinct irregularly zigzag purplish-brown stripe; faint indications of three other stripes across the centre of the wings; two parallel straight darker lines across the external third, followed upon the primaries by a series of rather large dark-brown spots; an indistinct undulated line near the outer margin of the same wings and the fringe pale reddish brown: secondaries with the nervures on the centre of the disk brownish: head brown; antennæ red-brown; prothorax chrome-yellow; abdomen testaceous. Wings below lemon-yellow, with traces of three pale ferruginous parallel stripes across the middle; a dark-brown discal stripe: primaries with three or four pale subconfluent brown spots just beyond the discal stripe, and three dots of the same colour nearer to the outer margin; fringe pale reddish brown; costa cream-coloured: body below ochreous; anterior legs laky brown in front. Expanse of wings 3 inchcs 10 lines.

North India.

**Eupterote lineosa.** (Plate XCVI. fig. 9.)

Lasiocampa lineosa, *Walker*, *Cat. Lep. Het.* vi. p. 1440. n. 20 (1855).
Murlida lineosa, *Moore*, *Cat. Lep. E.I. Comp.* ii. p. 422 (1858).

Pale lemon-yellow: primaries slightly tinted with ochraceous, crossed by four very indistinct undulated brownish stripes—the first subbasal, the second just before the middle, the two others nearer together just beyond the middle; a darker brown straight discal stripe, a spot of the same colour beyond it on the first median interspace, and a second towards apex: secondaries with extremely faint indications of two parallel stripes visible through the texture of the wing, a dark brown discal stripe, and a few brown scales feebly indicating a sinuated submarginal line: head and prothorax bright yellow; abdomen tinted with testaceous, especially at the base; antennæ dark brown. Wings below nearly as above, but clearer in colour: body below ochreous; tarsi brown. Expanse of wings 3 inches 4 lines.

Nepal (*Hardwicke*).

**Eupterote testacea.** (Plate XCVII. fig. 1.)

Dreata testacea, *Walker*, *Cat. Lep. Het.* iv. p. 906. n. 9 (1855).

Wings pale sandy yellow: primaries crossed by eight purplish-brown lines—the first five nearly equidistant, the sixth and seventh closely approximated, straight, the inner one very

dark, the third nearly as dark as the sixth, the first, second, and fifth very indistinct; all, excepting the sixth and seventh, more or less undulated: secondaries crossed by a dark discal line, three central lines and a submarginal one extremely indistinct: head, collar, and base of tegulæ dull ochreous; antennæ ferruginous; abdomen testaceous. Wings below clear stramineous; costal margins ochraceous, markings very indistinct: body below ochraceous. Expanse of wings 2 inches 8 lines.

Silhet.

**Eupterote imbecilis.** (Plate XCVII. fig. 2.)

Dreata imbecilis, *Walker, Cat. Lep. Het.* iv. p. 905. n. 5 (1855).

Wings above pale flesh-colour, crossed by a dark-brown discal line, immediately beyond which is an indistinct line; three parallel undulated brownish stripes across the middle and an indistinct sinuated linc near the outer margin: primaries with traces of one or two stripes towards the base and a diffused spot at the end of the cell; a dark-brown spot beyond the discal line on the first median interspace; base of costa ochreous: body testaceous; head and collar ochreous; antennæ with ferruginous pectinations. Wings below paler and of a yellower tint than above; costal borders ochraceous, especially towards the base: body below ochraceous. Expanse of wings 3 inches 1 line.

North India.

**Eupterote invalida.** (Plate XCVII. figs. 3 & 4.)

♂. Whity brown; the primaries, external area of secondaries, and thorax shot with pink: wings crossed by two closely approximated dark-grey discal lines; a zigzag submarginal line of the same colour: primaries crossed by six incurved undulated grey lines between the base and the discal lines: collar and base of abdomen ochraceous; antennæ with ferruginous pectinations. Wings below with the interno-median areas broadly yellowish; the discal lines replaced by a less regular dark-brown stripe followed at a short distance by an indistinct line: pectus ochraceous; venter whity brown; otherwise as above. Expanse of wings 3 inches 3 lines.

♀. Considerably darker than the male, laky brown; the undulated lines between the base and discal lines continued through the secondaries. Expanse of wings 3 inches 7 lincs.

Darjiling (*Lidderdale*).

Allied to *E. tavoensis* of Moore.

**LEPTOJANA**, gen. nov.

Allied to *Eupterote*, but all the wings considerably narrower; both wings and thorax more woolly. Type *L. lineata*.

**Leptojana lineata.** (Plate XCVII. fig. 5.)

♀. Dreata lineata, *Walker*, *Cat. Lep. Het.* iv. p. 907. n. 11 (1855).
Messata lineata ♂, *Walker*, *l. c.* v. p. 1108. n. 2 (1855).

Pale buff, the wings crossed by a very slightly sinuated dark-brown discal line; head, prothorax, and base of primaries ochraceous; abdomen testaceous. Under surface slightly paler, the brown line considerably paler; legs ochreous. Expanse of wings 2 inches 7 lines.

North India.

Walker originally described this species correctly as a female; but, having omitted to label it, he subsequently described it as a male. When arranging the Collection he placed the specimen under the genus in which it was first described.

## PACHYJANA, gen. nov.

Allied to *Eupterote* and *Jana*, but the wings shorter and comparatively broader; the antennæ distinctly shorter and more curved than in *Eupterote*, primaries more woolly below. Type *P. undans*.

**Pachyjana undans.** (Plate XCVII. fig. 6.)

Dreata undans, *Walker*, *Cat. Lep. Het.* iv. p. 905. n. 7 (1855).

Pale sandy brown: primaries crossed by seven zigzag purplish-brown stripes, of which the fourth and fifth coalesce below the middle of the wing, the first, second, and fifth wider than the others; fringe slightly yellower than the rest of the wing: secondaries whitish, with a central stripe, indications of two subbasal stripes, and a broad external border with zigzag inner edge brownish; fringe as in the primaries: thorax pale brown; head and abdomen testaceous. Under surface testaceous: wings crossed by a brown squamose discal stripe and two or three ill-defined parallel stripes between the latter and the base. Expanse of wings 2 inches 6 lines.

Himalayas.

## DREATA, *Walker*.

This genus must be restricted to *D. hades*, the first species treated of by Mr. Walker in his tabulation of the forms associated under the name *Dreata*. It differs from *Eupterote* in its shorter curved antennæ, the pectinations of which are shorter, and in the shorter costal margin of the primaries, which is more distinctly convex towards the apex*.

* It has been proposed to regard *D. edulis* as type; but, apart from the fact that Walker was doubtful about his identification of this species, it is more natural that one of his own species should be chosen for type of his genus.

**Dreata hades.** (Plate XCVII. fig. 7.)

Dreata hades, *Walker, Cat. Lep. Het.* iv. p. 908. n. 13 (1855).

Greyish brown: the wings with the central area whity brown, limited externally by a nearly straight (very slightly sinuated) dark discal stripe, and traversed by two very indistinct dentate-sinuate greyish lines; a dentate-sinuate blackish line parallel to the outer margin: primaries dark at the base, the basal area crossed by three irregular dusky stripes: secondaries with the markings less distinct than in the primaries: abdomen paler than the thorax. Under surface fuliginous brown; wings crossed beyond the middle by a straight dusky line. Expanse of wings 2 inches 9 lines.

Silhet.

## TAGORA, *Walk.*

**Tagora patula.** (Plate XCVIII. figs. 1 & 2.)

Tagora patula, *Walker, Cat. Lep. Het.* v. p. 1189. n. 2 (1855).

♂. Sandy yellowish varied with flesh-colour. Wings crossed in the middle by four nearly equidistant parallel dentate-sinuate grey lines, the outermost one doubled; an irregular discal series of black spots partly united upon the primaries by a slaty-grey sinuated line: primaries with a quadrate hyaline white spot at the end of the cell; an oblique brown line from below the cell to basal third of inner margin; traces of five oblique brown stripes across the basicostal area; a grey nebula between the discal black spots upon the median branches: secondaries whitish towards the base; a curved reddish-brown subbasal stripe: head and antennæ dark brown. Under surface pale reddish buff; wings crossed by a blackish discal line; other markings nearly as above, but the oblique interno-median line of the primaries and the curved subbasal line of the secondaries obsolete. Expanse of wings 3 inches 11 lines.

♀. Pale brownish grey, clouded with brown and sandy yellowish; the markings broader and more defined than in the male; the black discal dots smaller and less distinct, partly united by a sinuated white stripe which, on the secondaries, limits a broad brown discal belt traversed by a sinuated yellowish stripe; a similar but narrower belt runs from near the external angle to near the apex of primaries; the latter wings with two hyaline spots at the end of the cell; the grey discal nebula replaced by an oblique brown patch; fringes of all the wings sandy yellowish: body very pale. Under surface whity brown, the centre of the wings crossed by four dentate-sinuate dusky lines; external third smoky brown, limited internally by a blackish-bordered yellowish stripe, and traversed by a dentate-sinuate blackish line with diffused whitish internal border. Expanse of wings 5 inches 1 line.

Silhet.

**Tagora pallida.** (Plate XCVIII. fig. 3.)

Jana pallida, *Walker*, *Cat. Lep. Het.* iv. p. 912. n. 6 (1855).
Sphingognatha asclepiades, *Felder*, *Reise der Nov.*, *Lep.* iv. tab. xciv. fig. 1 (1874).

♂. Sandy yellowish varied with pale ferruginous and whitish markings, almost exactly as in the male of the preceding species, excepting that there is no hyaline spot at the end of the cell of primaries, and there are two large dark ferruginous spots on the median interspaces just beyond the discal blackish line. On the under surface it is paler than *T. patula,* but clouded with ferruginous, especially on the external area; the lines are all distinct and ferruginous brown, the discal line is blackish and slightly curved, and the dentate-sinuate submarginal line blackish. Expanse of wings 4 inches 10 lines.

Silhet.

## JANA, *H.-Sch.*

**Jana lineosa.** (Plate XCVIII. fig. 4.)

♂. Jana lineosa, *Walker*, *Cat. Lep. Het.* iv. p. 912. n. 7 (1855).

Pale sandy yellow: primaries washed with ferruginous and with feeble pink reflections, crossed by six transverse ferruginous stripes, the first, third, and fifth darkest, the third and fourth followed immediately by paler undulated lines; the fifth with yellowish inner border, and the sixth with lilacine whitish inner border; a slender dark-brown marginal line; fringe tipped with brown: secondaries crossed by four pale-bordered ferruginous lines, the second indistinct: head, collar, and prothorax ferruginous. Under surface bright orange ochreous; wings crossed from the middle to the centre of the disk by five red-brown stripes, the first and last dark and sharply defined, the three others paler, the second close to the first, the third and fourth near together in the centre. Expanse of wings 4 inches 4 lines.

Silhet.

**Jana incandescens.** (Plate XCVIII. fig. 5.)

Jana incandescens, *Walker*, *Cat. Lep. Het.* iv. p. 910. n. 2 (1855).

Primaries above lilacine grey, crossed by six externally diffused chocolate-brown bands—the first and fourth indistinct, the third and fifth darkest, the sixth interrupted above the middle; the external area ferruginous: secondaries pale reddish brown, washed with grey: veins and border gravel-yellow; fringe rosy greyish: thorax lilacine grey; head and collar dark velvety chocolate-brown; abdomen orange. Wings below fulvous, with rust-red borders, two divergent bands across the disk, the outer one dusky with diffused greyish external border; fringe greyish brown: body below brilliant sericeous burnt-sienna red, the venter

duller in the middle : front legs above and tarsi of all the legs dark brown. Expanse of wings 6 inches 4 lines.

Darjiling (*Lidderdale*).

The locality of the typical specimen was not known.

## ODONESTIS, *Germ.*

### Odonestis latipennis. (Plate XCIX. figs. 1, 2.)

Lebeda latipennis, *Walker*, *Cat. Lep. Het.* vi. p. 1457. n. 4 (1855).

Primaries above pale fuliginous brown, with dusky bordered central belt widening towards the costa; interno-basal area and external border broadly greyish; a dusky subbasal stripe, on the inner margin of which is a small white discoidal stigma; a dusky stripe across the disk, followed by eight blackish-spotted clay-coloured spots, a similar spot near the base of the cell: secondaries reddish brown, redder in the male than in the female: thorax shining greyish brown, abdomen reddish brown. Under surface fuliginous brown, the wings in the male whity brown, with three parallel dusky discal stripes, of which the outermost one is very indistinct. Expanse of wings, ♂ 3 inches 1 line, ♀ 5 inches.

♂, North India; ♀, Darjiling (*Lidderdale*).

### Odonestis ampla. (Plate XCIX. figs. 3 & 4.)

♀. Odenestis ampla, *Walker*, *Cat. Lep. Het.* vi. p. 1412. n. 4 (1855).

♂. Lebeda ferruginea, *Walker*, *l. c.* p. 1458. n. 5 (1855).

♂. Ferruginous, with dusky lines across the primaries and discoidal stigma as in the preceding species, but with an indication of a series of spots beyond the discal line; the discal series of spots much smaller and greyish; central band slightly lilacine. Wings below much paler than above, with a darker band just beyond the middle and two partly confluent bands across the disk. Expanse of wings 3 inches 8 lines.

♀. Primaries sandy brown, with the basi-internal area and central belt greyish; the spots beyond the undulated discal stripe more distinct than in the male; the submarginal discal series of spots with black centres: secondaries darker brown, with two indistinct fuliginous bands, and a series of large spots beyond them across the disk; external border broadly sandy yellowish: thorax greyish; abdomen sandy brown. Wings below pale sandy brown, with two very indistinct brown bands beyond the middle, followed by a series of blackish spots, large and well-defined on the secondaries: body reddish. Expanse of wings 5 inches 5 lines.

Silhet; Darjiling (*Lidderdale*).

## LEBEDA, *Walk.*

### Lebeda plagifera. (Plate XCIX. fig. 5.)

Lebeda plagifera, *Walker, Cat. Lep. Het.* vi. p. 1459. n. 7 (1855).

Primaries above pale brown; a large ferruginous patch just beyond the eell, limited internally by an oblique blaekish line whieh runs to inner margin, and externally by an undulated whitish line, its infero-exterior angle confluent with a large cuneiform mahogany-red patch on external border; subapical area washed with lilac and sueceeded by three dark-brown spots; two or three black spots near the external angle; an oblique dusky subbasal streak and a brown line from the inner margin to the ferruginous patch: seeondaries pale reddish brown, with an ill-defined stripe and the external area slightly darker: thorax greyish, abdomen testaceous. Under surface pale reddish brown: wings with two eurved slightly darker diseal stripes; palpi bright burnt-sienna red. Expanse of wings 4 inehes 1 line.

Nepal (*Hardwicke*); Darjiling (*Lidderdale*).

### Lebeda lidderdalii. (Plate C. figs. 1 & 2.)

Ferruginous, the female rather paler than the male: primaries erossed by four dusky stripes, the first less oblique than the three others, and immediately followed in the male by a eonspicuous white discoidal stigma, the seeond inarched towards the costa; external border broadly washed with lilaeine grey and limited internally, towards the apex, by four small blaekish spots. Under surfaee rather paler than above; the wings crossed by two parallel darker discal bands, followed by a series of spots of the same eolour; tarsi banded with whitish. Expanse of wings, ♂ 4 inehes, ♀ 5 inches 8 lines.

Bhotan (*Lidderdale*).

### Lebeda stigmata. (Plate C. figs. 3 & 4.)

Ferruginous, the secondaries of the female rather paler than in the male: primaries erossed by four subparallel dusky stripes, all more or less inarched towards the eosta, the first followed immediately in both sexes by a conspicuous white diseoidal stigma; the area between the second and third and the external border broadly washed with lilaeine grey, the inner margin of the cxternal area limited by a series of small blackish spots: secondaries of the male purplish towards the abdominal margin, with pale basieostal area, of the female slightly dusky towards the abdominal margin, crossed just beyond the middle by two parallel diffused bands slightly darker than the ground-colour. Wings of the male below paler towards the costal and external margins, of the female paler all over; crossed in both sexes by two parallel regular eontinuous diseal darker bands: body reddish brown; tarsi banded with whitish. Expanse of wings, ♂ 4 inehes 4 lines, ♀ 5 inehes 8 lines.

Darjiling (*Lidderdale*).

Allied to *L. placida* of Moore, from whieh it may be at once distinguished by the form of the second dusky stripe on the primaries.

**Lebeda nobilis.** (Plate C. figs. 5 & 6.)

Lebeda nobilis, *Walker*, *Cat. Lep. Het.* vi. p. 1456. n. 3 (1855).

Primaries above pale reddish brown, crossed by four whity-brown stripes, the second and third forming the boundaries of a broad belt which gradually expands towards the costa, fuliginous brown in the male, slightly darker than the ground-colour in the female, in both sexes enclosing a snow-white conical discoidal stigma; the third line is bordered externally by a diffused dusky stripe; external border fuliginous, its inner margin very irregular, limited above the lower radial vein by a dark nebulous streak, distinct in the male and uniting with a longitudinal dark streak which fills the lower radial interspace, below the lower radial it is limited by a whitish border and on the interno-median interspace by two pale-bordered black spots: secondaries above ferruginous, darker towards the abdominal margin (almost black in the male), crossed in the middle by two whity-brown stripes; fringe white: body above pale brown, darker behind the collar; basal segments of abdomen in the male purplish brown, anal segment dull testaceous; antennæ testaceous. Wings below with the basal three fifths in the male chocolate-brown, limited by a whitish curved stripe; external area greyish, crossed by a reddish-brown discal belt enclosing a whitish stripe; excavated portion of the costal border of the secondaries in the male greyish white; the discoidal stigma of the primaries indistinctly visible; basal area of the female no darker than the rest of the wing, limited externally by a ferruginous stripe; other markings less defined than in the male, the stigma of the primaries obsolete: body below altogether darker than the wings, purplish brown in the male. Expanse of wings, ♂ 4 inches 10 lines, ♀ 5 inches 11 lines.

Nepal (*Hardwicke*); Silhet (*Stainsforth*).

Specimens slightly differing from the type were obtained at Darjiling by Dr. Lidderdale.

A Hammond del et lith.

Mintern Bros imp.

1. Acosmeryx cinerea.
2. Acosmeryx sericeus.
3. Acosmeryx pseudonaga.
4. Pergesa aurifera.
5. Pergesa velata.
6. Pergesa gloriosa.
7. Panacra vagans.
8. Panacra perfecta.
9. Panacra mydon.

R. Mintern, del et lith.

Mintern Bros, imp.

1. Angonyx automedon.
2. Angonyx busiris.
3. Chærocampa macromera.
4. Chærocampa fraterna.
5. Chærocampa lucasii.
6. Chærocampa silhetensis.
7. Chærocampa lineosa.

Edwin Wilson, del et lith.

Mintern Bros imp.

1. Deilephila lathyrus.
2. Ambulyx junonia.
3. Ambulyx maculifera.
4. Ambulyx consanguis.
5. Triptogon gigas.
6. Leucophlebia bicolor.
7. Leucophlebia damascena.
8. 9. Cypa incongruens.

R. Mintern. del et lith.

Mintern Bros, imp.

1. Triptogon florella.
2. Triptogon indicum.
3. Clanis pudorina.
4. Clanis bilineata.
5. Clanis deucalion.
6. Clanis cervina.
7. Pseudosphinx nyctiphanes.
8. Pseudosphinx inexacta.
9. Pseudosphinx fo.

R. Mintern & A. H. Searle del.

Mintern Bros. imp.

1. Eusemia silhetensis.
2. Eusemia orientalis.
3. Eusemia distincta.
4. Eusemia dives.
5. Eusemia sectinotis.
6. Eusemia aruna.
7. Nikæa longipennis.
8. Seudyra longipennis.
9. Seudyra catocalina.

A Hammond del et lith.

Mintern Bros imp

1. Chatamla tricolor.
2. Heterusia magnifica
3. Heterusia virescens.
4. Heterusia dulcis
5. Chalcosia adalifa
6. Milleria fuliginosa
7. Pintia ferrea
8, 9. Amesia stelligera.
10. Amesia aliris.

A Hammond del. et lith.

Mintern Bros. imp

1. Epyrgis imitans.
2. Codane zelica.
3. Laurion miles.
4. Retina rubrivitta.
5. Agalope basalis.
6. Agalope glacialis.
7. Agalope primularis.
8. Artona discivitta.
9. Artona zebraica.
10. Artona confusa.
11. Notioptera dolosa.
12. Glanycus insolitus.

A. Hammond del et lith.

Mintern Bros imp

1. Hypercompa plagiata.
2. Areas moorei.
3. Icambosida nigrifrons.
4. Icambosida rhodophila.
5. Aloa diminuta.
6. Aloa punctistriga.
7. Alpenus spilosomoides.
8. Alphea fulvohirta.
9. Spilarctia abdominalis.
10. Spilarctia lacteata.
11. Spilarctia jucunda.
12. Spilarctia nydia.
13. Spilarctia confusa.

R. Mintern & A. H. Searle. del.

Mintern Bros. imp.

1. Nayaca imbuta.
2. Nayaca divisa.
3. Nayaca florescens.
4. Rajendra tripartita.
5. Pentacitrotus vulneratus.
6. Doliche gelida.
7. Bizone pallens.
8. Bizone peronata.
9. Cyana detrita.
10. Deiopeia cruentata.
11. Miltochrista nubifascia.
12. Miltochrista tesellata.
13. Miltochrista mactans.
14. Teulisna tetragona.
15. Teulisna sordida.

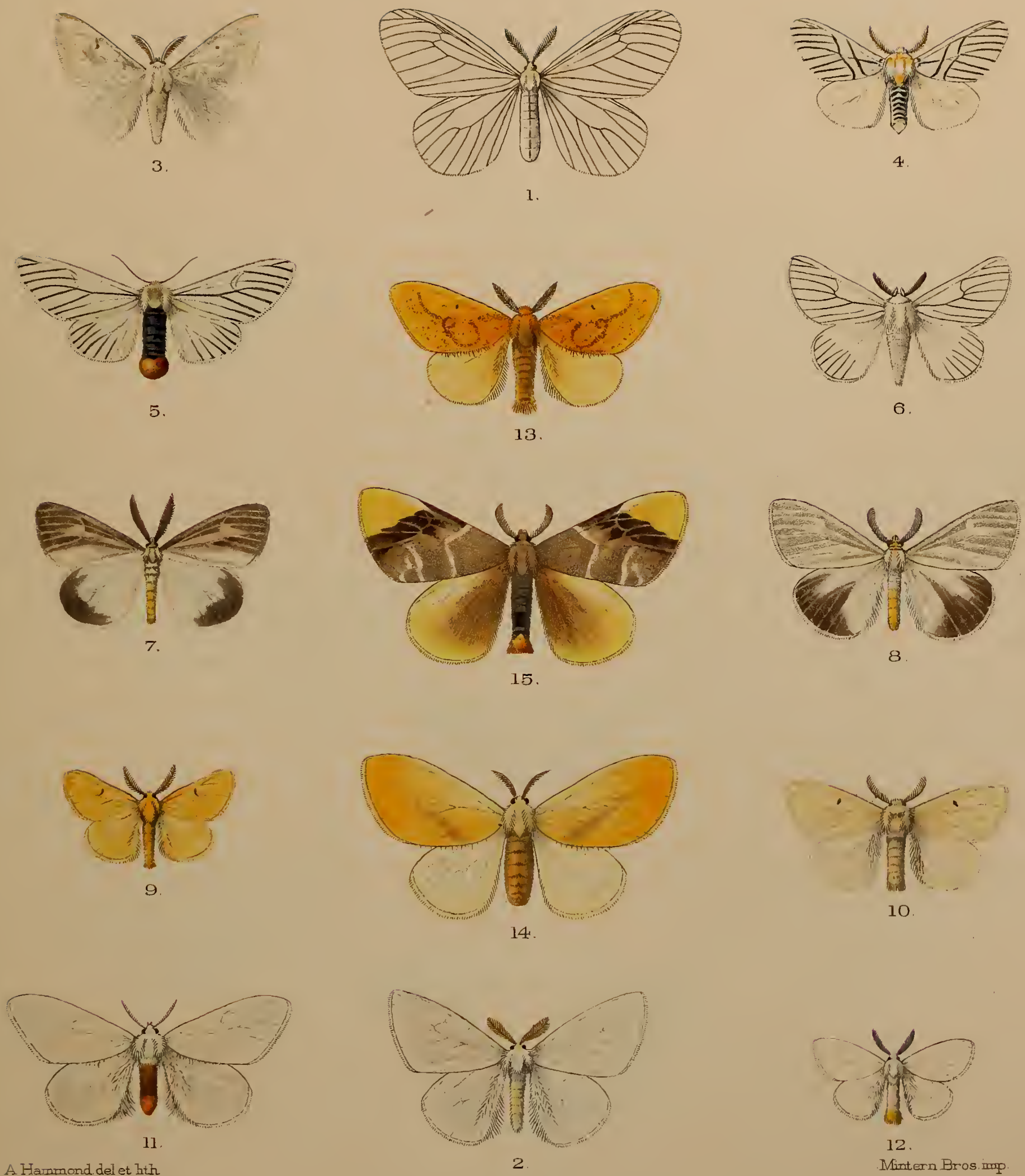
R Mintern del et lith

Mintern Bros imp

1. Castabala roseata.
2. Agrisius guttivitta.
3. Macrobrochis atrata.
4. Macrobrochis gigas
5. Macrobrochis albicans
6. Philona inops
7. Damalis plaginota
8. Damalis egens
9. Hypsa lacteata.
10, 11. Neochera marmorea

A. H. Searle del. et lith. Mintern Bros. imp.

1. Leptosoma latistriga.
2. Zonosoma interlectum.
3. Trypheromera plagifera.
4. Pitasila varians.
5. Epicopeia excisa.
6. Epicopeia lidderdalii.
7. Epicopeia maculata.
8. Epicopeia caudata.



A Hammond del et lith. | Mintern Bros. imp.

1. Penora venosa.
2. Redoa cymbicornis.
3. Redoa submarginata.
4. Gazalina antica.
5. Gazalina venosata.
6. Himala argentea.
7. Lælia circumdata.
8. Lælia delineata.
9. Euproctis lunata.
10. Euproctis lutescens.
11. Euproctis latifascia.
12. Porthesia marginalis.
13. Chærotriche plana.
14. Chærotriche immaculata.
15. Pida apicalis.

A. Hammond del. et lith.

Mintern Bros imp.

1. Artaxa scintillans.
2. Artaxa atomaria.
3. Artaxa limbata.
4. Cispia punctifascia.
5. Aroa substrigosa.
6. Pseudomesa quadriplagiata.
7. Nagunda semicincta.
8, 9. Lymantria concolor.
10, 11. Lymantria superans.
12. Lymantria marginata.
13. Lymantria cara.

A. B. Searle del et lith.

Mintern Bros imp.

1. 2. Lymantria grandis.
3. Pegella lineata.
4. 5. Mardara complicata.
6. Dasychira maruta.
7. Dasychira niveosparsa.
8. Antheræa frithii.

A H Searle del et lith

Mintern Bros imp.

Attacus edwardsii

♀

A.h. Searle del. et lith.

Mintern Bros imp.

Attacus edwardsii

R Mintern del et lith

Mintern Bros imp

1. Philosamia lunula
2. Rinaca extensa.
3, 4. Saturnia grotei
5, 6. Apha floralis.
7, 8. Apha subdives.

Edwin Wilson. del et lith.

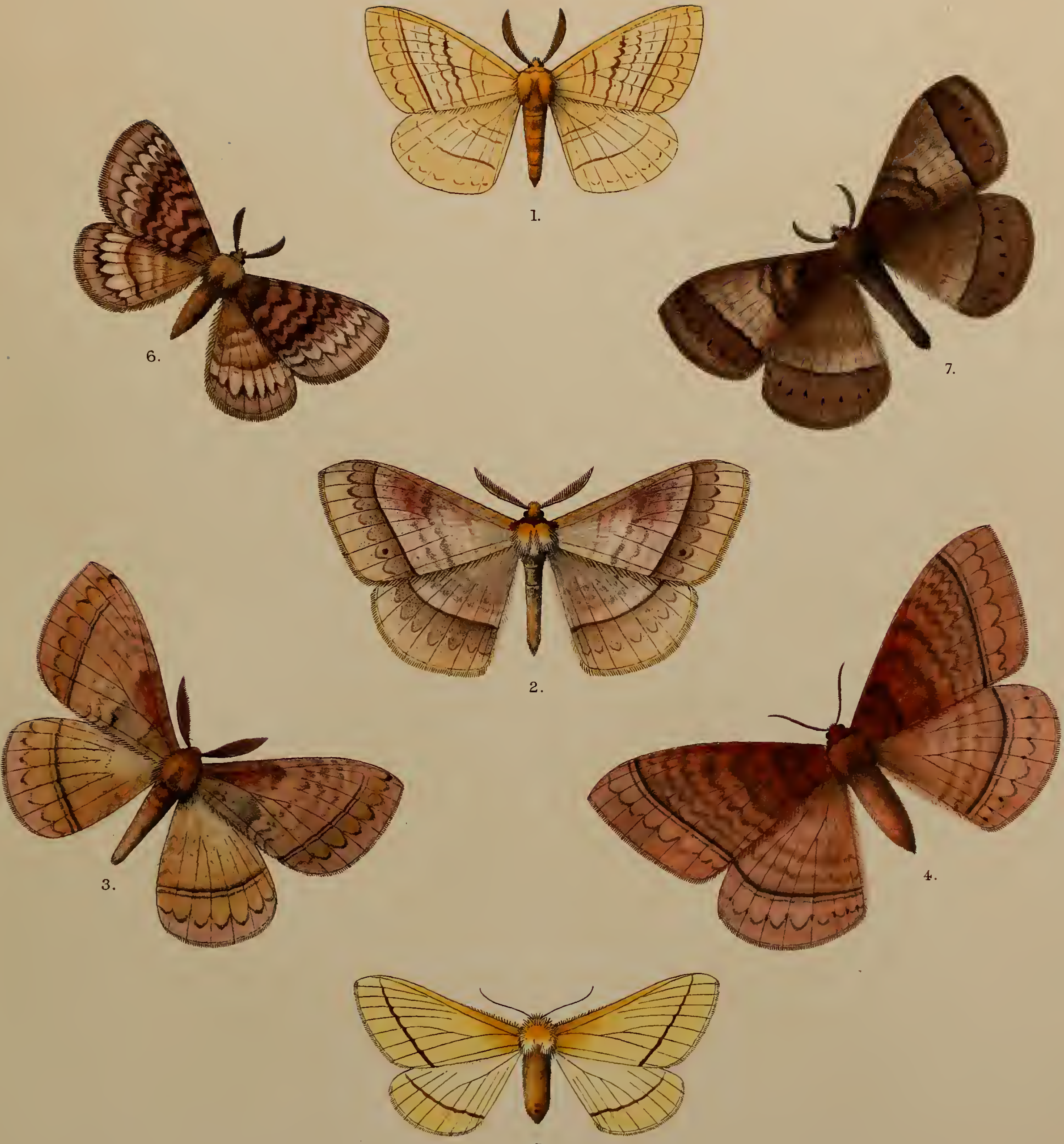
Mintern Bros. imp.

1. 2. Brahmæa whitei. 3. 4. Brahmæa conchifera.
5. 6. Brahmæa wallichii.

A Hammond, del et lith.

Mintern Bros, imp.

1. 2. Ganisa glaucescens.
3. Ganisa pallida.
4. 5. Ganisa plana.
6. 7. Eupterote discordans.
8. Eupterote mutans.
9. Eupterote lineosa.



A. Hammond del et lith.

Mintern Bros imp.

1. Eupterote testacea.
2. Eupterote imbecilis.
3. 4. Eupterote invalida.
5. Leptojana lineata.
6. Pachyjana undans.
7. Dreata hades.

Edwin Wilson del et lith.

Mintern Bros, imp.

1. 2. Tagora patula.
3. Tagora pallida.
4. Jana lineosa.
5. Jana incandescens.

Edwin Wilson, del et lith.

Mintern Bros, imp.

1.2. Odonestis latipennis 3. 4. Odonestis ampla.
5. Lebeda plagifera.

A. Hammond del et lith.

Mintern Bro's imp.

1. 2. Lebeda lidderdalii. 3. 4. Lebeda stigmata.
5. 6. Lebeda nobilis.